



# **Spec MX-5 Rules and Regulations**

**2006 - 2015**

**Vehicle Technical Specifications**

**Technical Infraction Penalties**

**2.5.2019**

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## **2006 - 2015 Spec MX-5 Rules and Regulations**

These rules and regulations govern the technical specifications of the Spec MX-5 race car while participating and competing in the Sports Car Club of America (SCCA), National Auto Sport Association (NASA), American Endurance Racing (AER), World Racing League (WRL), ChampCar, and Spec MX-5 Challenge Series. For general vehicle requirements not outlined in this document, refer to the SCCA current GCR Section 9.

### **Spec MX-5 Purpose and Intent**

Based on four pillars: affordability, reliability, tech-ability, and fun to drive, the Spec MX-5 car provides the membership with the opportunity to compete in similarly prepared, low cost, 2006-2015 production-based MX-5 car with limited modifications, intended to help deliver the most fair and competitive racing competition in club racing.

### **Authorized Spec MX-5 Vehicle Modifications**

Only the left-hand drive, North American-version of the 2006-2015 Mazda MX-5 convertible is eligible. The power retractable hard top cars are not eligible, but a plan is in place to allow them in the future. The original OEM vehicle identification number (VIN) stamped on the firewall must correspond with the model year automobile as classified. VIN plates or stampings must remain in place, with the firewall VIN taking precedence.

A Mazda Factory Shop Manual for the specific make, model, and year of automobile is required to be in the possession of each entrant. The manual may be in the form of printed material, microfiche, CDs, DVDs, and/ or Internet access to manufacturer sponsored web-based databases. The manual is intended to aid scrutineers in identifying parts and the configuration of the automobile.

The items outlined in this VTS document represent the only modifications and safety items permitted and/or required on Spec MX-5 vehicles other than safety items as required in SCCA's current GCR Section 9. Parts and components may not perform an unauthorized function (i.e. Modifications must be stated as authorized or cannot be done).

If the Mazda Factory Manual or these rules provide only a partial specification or no specification at all, the Mazda parts may not be modified beyond what is permitted in these rules. Compliance will be determined by comparison to new parts and/or the parts compliance measurement listing delivered by Mazda. Other approved parts with only a partial specification or no specification available in these rules may not be modified. Compliance will be determined by comparison to new parts and/or the parts compliance measurement listing from the supplier.

Assembly, rebuild, and refurbishment procedures, and all associated dimensions must adhere to the published factory service procedures, except as otherwise stated in these rules. No components may be added or omitted from those specified by the published factory service procedures. All components must be standard dimensions. It is permitted to use industry standard procedures to repair damaged components.

The use of any painting, coating, plating, metal treatment process or impregnating substance (e.g., anti-friction, thermal barrier, oil shedding coatings, chrome, anodizing, REM, isotropic finishing, etc.) to any internal engine surface, internal axle components, internal transmission or differential surface, internal or external surfaces of the intake manifold, exhaust manifold or down tube, is prohibited.

### **Spec MX-5 Penalties**

To ensure the most fair and competitive competition in club racing, Mazda built the car on four pillars (outlined in "Purpose and Intent"), and has further reinforced parity by establishing a strict and significant technical infraction penalty model. Rules violations will not be tolerated and will be handled with relatively severe penalties as outlined in Section 21. In addition, all Spec MX-5 entrants must be members in good standing within the Mazda Team Support Program. Spec MX-5 rewards the drivers and teams who are competitive by operating within the rules.

# Vehicle Technical Specifications (VTS) with Penalties

## 1. Vehicle Weight

- a. Minimum vehicle weight with driver is 2500lb.
- b. Ballast
  - I. If ballast is required to meet the required minimum weight, it must be added as follows:
    - i. A ballast base plate must be securely mounted using the OEM passenger seat mounting bolt holes and bolts. Any number of additional segments of ballast may be attached to the base plate.
    - ii. Each segment of ballast must be fastened to the base plate with a minimum of two (2) one-half (1/2) inch bolts/studs and positive lock nuts of SAE Grade 5/ Metric 8.8 or better and must utilize large diameter, load distributing washers. In lieu of positive lock nuts it is permitted to positively thread the additional segments of weight into the base plate.
- c. Holes are not permitted to be drilled in the floor pan to mount ballast.

## 2. Chassis

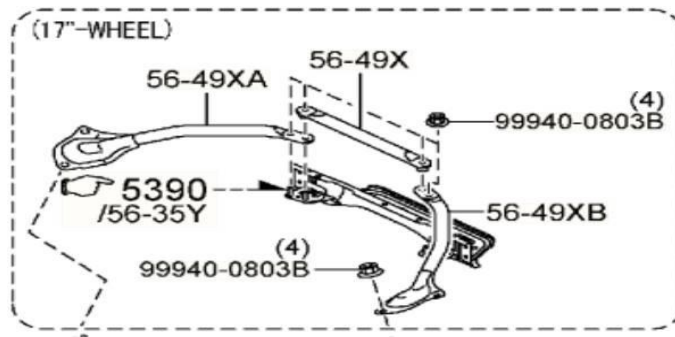
- a. Towing eyes per SCCA's current GCR Section 9.3 are required. There must be an arrow that strongly contrasts with the vehicle paint scheme pointing to each tow strap.
- b. OEM strut tower brace is required; it is comprised of three (3) components; see Table 1 for part numbers.

**Table 1: Strut Tower Brace Parts**

Description	Mazda Part #
Right Side of Strut Tower Brace	NE57-56-48X
Left Side of Strut Tower Brace	NE57-56-49X
Center Section of Strut Tower Brace	NE57-56-48ZA

1. A 14mm hole in part #'s NE57-56-48X and NE57-56-49X to allow for access to the shock adjuster screw is permitted; no other modifications or other braces are permitted.
2. MX-5 donor chassis with 16" OEM wheels require install of OEM strut tower brace (part # NE57-56-35XA).

### Cowl Panel with Attachment Hardware



- c. Disabling or removing of the door locking mechanism must be performed.
- d. To facilitate frequent lifting of the vehicle, a 3/4" boxed tube not to exceed 12" long may be added under the rocker panel inboard of the factory pinch weld flange on each side of the vehicle.
- e. Convertible tops and attaching hardware must be completely removed.
- f. All chassis, structural, and electrical repairs, if performed, must be in concurrence with factory procedures, specifications, and dimensions. Unless specifically authorized by the manufacturer for repair or permitted by these rules, no reinforcement (e.g., seam welding, material addition, etc.) is permitted.
- g. Removal of excess wiring is permitted provided it serves no other purpose and does not splice or interrupt the main wiring harness for the following systems: audio equipment; power seats; airbag/supplemental restraint systems components; heated seats; interior lighting; power windows; and power door locks. (No additional wiring may be added except as permitted in other sections - e.g., Section 16: Electrical Equipment).

### 3. Body

- a. Interior and exterior door handles are required to remain operable. Alternate interior door handles or cord/strap are permitted.
- b. The driver's and passenger's side inner door structural panel may be removed to fit the cage.
- c. The stock side impact/anti-intrusion beam must not be modified or removed.
- d. Door locking mechanisms must be disabled or removed.
- e. A minimum of two (2) of the brake lights must be in working order per the current GCR Section 9.1.
- f. The two (2) OEM unmodified, external mirrors for the correct the Mazda MX-5 (left and right) are required; they must be mounted in stock location and may not be modified.
- g. OEM interior rearview mirror or an aftermarket rearview mirror must be used.
- h. 2006-2015 MX-5 bodywork may be updated or backdated.

- i. Mazda Motorsports' fiberglass headlamp replacements may be used; no modifications or substitutions are permitted; exceptions: painting, covering, and wrapping.

**Table 2: Headlamp Replacement Covers**

<b>Model Year</b>	<b>Mazda Part #</b>	<b>Description</b>
2006-2008	0000-07-5818-LT	Left Side
2006-2008	0000-07-5818-RT	Right Side
2009-2015	0000-07-5819-LT	Left Side
2009-2015	0000-07-5819-RT	Right Side

- j. OEM trunk lip spoiler (Mazda part # NF51-V4-920G-xx) is permitted.
- k. Lexan windshield may be used in place of the stock windshield.
- l. Windshield clips per current GCR Section 9.3 windshield clips are recommended.
- m. Hood and trunk pins or clips are permitted. Factory hood and trunk latches must remain intact and operational and may not be removed, disabled or altered.
- n. Modification of release cables is permitted to facilitate external pull/opening straps/pulls/cords.
- o. A radiator screen of .125" minimum stainless-steel mesh may be added in front of the radiator.
  - I. The screen must be a single layer and must be installed to the bumper cover and or grille and be contained entirely within the bodywork of the vehicle.
  - II. Tape may be applied to the mesh screen.
- p. Front and rear fender lips may be rolled to prevent tire damage.
- q. OEM fog lights may be removed to allow for the installation of Mazda Motorsports' brake duct kit (part # 0000-03-5301-NC.) If the fog lamps are removed, a connection must be made from the fog lamp opening/hole in the bumper fascia to a brake duct attached to the hub.
- r. Side marker lenses may be removed and holes may be covered.
- s. OEM removable hard top or the unmodified Mazda Motorsports hard top (part # 0000-07-5901-CC) are permitted.
  - I. Either hard top may be painted or wrapped.
  - II. OEM hard top latches must be removed and replaced with positive fasteners.
  - III. The front of the hard top may attach to the upper windshield bar of the roll cage.
  - IV. It is permitted to run one single piece of racer tape to cover the leading edge of the aftermarket hard top where it meets the factory windshield frame.
  - V. Openings beneath the hard top seal to the body are not permitted. The hard top must be securely mounted to the body of the vehicle and perform no other purpose.
  - VI. Body repair must be performed to maintain stock body contours, lips, profiles, etc. Any body repair modification must not increase clearance.

- t. To improve driver's exit through the window area, the driver and passenger vent window and vent window supporting frame may be removed as an assembly.
- I. Vent windows may be modified to accept fresh air ducting.
- u. OEM radio antennas may be removed. Antennas for two-way radios may be added.
- v. The inner hood insulation liner may be removed.
- w. All cars must run with both the front door windows fully open (i.e. fully down).

#### 4. Cockpit / Trunk

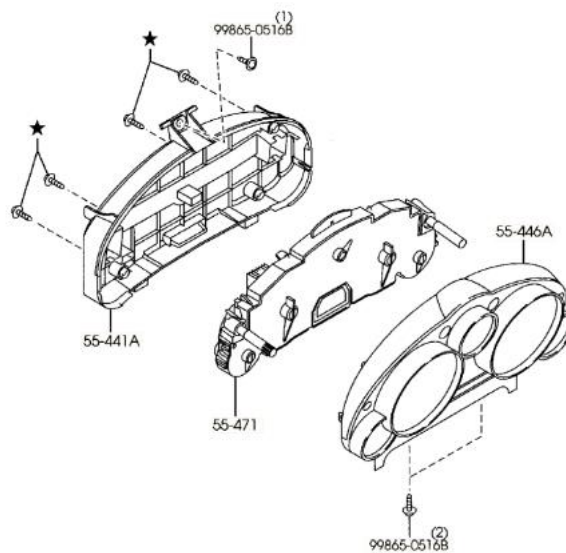
- a. All interior trim components such as carpets, seats, cargo bins, seat belts, floor mat, firewall insulation/blanket, sound deadener patches, interior undercoating, radio systems, speakers, dome lights, grab handles, sun visors and their insulating and attaching materials, must be removed. Other than to provide for the installation of required safety equipment or other authorized modifications, no other driver/passenger compartment alterations or gutting are permitted.
- b. The outer edges of the dashboard may be trimmed the minimum amount required to install the roll cage.
- c. Air bag systems must be disarmed and must be removed.
- d. It is permitted to remove all components of the cruise control system.
- e. The top portion of the door panels containing the door latch release handle must remain intact.
- f. The lower portion of the door panels must be removed for installation of the roll cage. Gutting of the door may not go outside of the factory seal.
- g. The door window glass and window operating mechanisms must be removed.
- h. The OEM dashboard and its attaching hardware and brackets must be retained, unmodified, intact and operational. HVAC control module located under the dash may be removed, to include the following: blower motor, evaporator core, heater core and associated ducting.



- i. All openings between the driver/passenger compartment and the gas tank, and filler tube must be filled completely with a metal bulkhead and comply with current GCR Section 9.3.



- I. Mazda Motorsports' finish panel trim kit (part # 0000-07-5822) may be used.
- j. It is permitted to remove the driver's side factory seat mounts, but not the floor pan.
- k. It is permitted to remove the horn and all associated horn related components.
- l. OEM driver's seat must be replaced with a one-piece bucket-type race seat per current GCR Section 9.3.
- m. The passenger seat must be removed.
- n. Any steering wheel except wood rimmed types may be used.
- o. Any shift knob may be used.
- p. The air conditioning equipment located in the engine compartment must be removed.
  - I. This equipment consists of the AC compressor, associated lines/dryer and the condenser.
- q. Alternate gauges and instruments may be added. They may be installed in front of the original instrument(s) location using a mounting plate(s), or any other location using a secure method of attachment. Other than modifications made to mount instruments and provide for roll cage installation, the remainder of the dashboard or panel must remain intact.
- r. Modifications may be made to the foot pedals to improve the comfort and accessibility to the driver; relocation of mounting points is not permitted.
  - I. Dead pedal/footrest and heel stop may be added.
- s. Instrument clusters must be unmodified OEM parts.



- t. Two-way radios may be used.
- u. Alternate means of windshield defrosting is permitted.

## 5. Engine Modifications

### 5.1. General

- a. No modifications to the engine are permitted, except where specifically authorized within these rules. This includes but is not limited to: all fuel injection and engine management components, as well as electrical, cooling, and lubrication systems.
- b. All systems, unless otherwise stated are subject to test procedures and must conform to OEM specifications as stated in the Mazda Factory Service Manual.
- c. Permitted engine maintenance includes the replacement, but not modification, of external engine and engine systems parts.
  - I. No balancing, blue printing, lightening, polishing, or other modification of moving parts of the engine is permitted.
  - II. All parts in the engine must be OEM parts unless specified in this rule set.
  - III. For all Mazda part numbers in these specifications, superseding part numbers are considered equivalent.
- d. Compression ratio for 2.0L engines must be calculated using the official Spec MX-5 calculator. A calculator link will be added here.

### 5.2. Engine Block

- a. The engine block may be decked or milled to achieve the class specified compression ratio. Honing of cylinders is permitted to a maximum standard diameter as shown in Table 3.
- b. The cylinders may be bored .020" +/- piston clearance requirements over to a maximum permitted overbore diameter shown in Table 3 below.

**Table 3: Piston Sizes**

Piston	Part #	Piston Size	Bore Diameter Max
Standard	0000-01-5310	87.500mm (3.445")	87.6046mm (3.449")
Allowed Overbore (.020)	0000-01-5310-OS	88.000mm (3.465")	88.1126mm (3.469")

- c. It is not permitted to overbore a single cylinder; all cylinders must be bored equally.
- d. Sleeving of cylinders is not permitted.

### 5.3. Crankshaft

- a. OEM Mazda MZR 2.0L (2009-2015) manual transmission crankshaft (part # LF9G-11-301) must be used with no modifications except for machining or polishing of the bearing surfaces to allow the use of main and rod bearings as permitted in Table 4 below.

**Table 4: Crankshaft Measurements**

Crank Journal Measurement	Minimum Rod Diameter	Minimum Main Diameter
Imperial	1.848"	2.047"

- b. OEM crankshaft (Mazda part # LF9G-11-301) must weigh a minimum of 31.75lb.
- c. Maximum permitted stroke is as follows: 3.27" / 83.1mm
- d. Shot peening is prohibited.
- e. Rod bearings
  - I. Main and rod bearings must not be modified.
  - II. OEM bearings are permitted. (Updated 2.5.2020.)
  - III. The only bearing sizes permitted other than OEM are listed in Table 5 below. (Updated 2.5.2020.)
  - IV. Coatings are not permitted.

**Table 5: Bearing Sizes**

Bearing Type	Minimum Bearing Width	Minimum Bearing Thickness	Minimum Bearing Weight	Part #
Main Bearings (Standard H)	.630"	0.097"	N/A	0000-01-5215-MB
Main Bearing (Standard HX)	.630"	0.097"	N/A	0000-01-5216-MB
Rod Bearings (Standard H)	.630"	0.057"	28g	0000-01-5213-RB
Rod Bearing (Standard HX)	.630"	0.057"	28g	0000-01-5214-RB

- f. The crank trigger must not be modified; it must be installed per the Mazda Factory Service Manual.
- g. OEM crank pulley/balancer (Mazda part # LF94-11-400) must not be modified and must be installed per the Mazda Factory Service Manual.
- h. Knife edging of the crankshaft is not permitted.
- i. Modifications to the crankshaft counterweights are not permitted.
- j. Coatings, REM or metal treatments of any kind are not permitted.

## 5.4. Connecting Rods

- a. OEM Mazda MX-5 (2009-2015) manual transmission unmodified connecting rods (part # LF9G-11-210) must be used. Connecting rod weight with cap and bolts must not be less than 530 grams.

## 5.5. Pistons

- a. Mazda Motorsports' competition pistons (standard bore part # 0000-01-5310; oversized part # 0000-01-5310 OS) are required; no modification is permitted.
- b. Minimum weight of the piston, less wrist pin and hardware, must not be lighter than 290 grams.
- c. Mazda Motorsports' competition wrist pin (part # 0000-01-5310-PN) must be used.
- d. Minimum weight of the wrist pin must not be lighter than 80 grams.
- e. Modification of the piston ring end gap width is permitted.

## 5.6. Cylinder Head

- a. Mazda Motorsports' competition cylinder head (part # 0000-01-5300) must be used; no modifications to the cylinder head are permitted outside of the gasket face surface outlined below in Table 6.
- b. Intake runner CC volume is 182cc +/- 1cc. (Updated 2.5.2020.)
- c. Exhaust runner CC volume is 114cc +/- 1cc. (Updated 2.5.2020.)
- d. Combustion chamber volume may not be below 41cc. (Updated 2.5.2020.)
- e. The gasket face of the cylinder head may be resurfaced provided the compression ratio is not exceeded. (Updated 2.5.2020.)
  - I. Surfacing of the head gasket surfaced must be in a flat plane.
  - II. Cylinder head gasket surface distortion may not exceed .010mm or 0.004".
- f. The minimum height of the cylinder head as measured must be at least (TBA)
- g. The following head gaskets in Table 6 below are permitted; no other gaskets may be used.

**Table 6: Head Gasket Measurements**

Description	Thickness	Mazda Part #
OEM Gasket	0.039" approximate crush depth	L3G2-10-271A
Competition Gasket	0.55mm (0.021")	0000-01-5319-21
Competition Gasket	0.75mm (0.030")	0000-01-5319-30
Competition Gasket	1.0mm (0.040")	0000-01-5319-40
Competition Gasket	1.3mm (0.051")	0000-01-5319-51

## 5.7. Camshaft and Camshaft Timing

- a. Camshafts must not be modified; see Table 7 for OEM camshaft part numbers.

**Table 7: Camshaft Part #s**

Description	Mazda Part #
Intake Cam	L3E3-12-420
Exhaust Cam	L309-12-441B

- b. The camshaft and crankshaft sprockets must not be modified; see Table 8 for part numbers.

**Table 8: Camshaft Sprocket Part #s**

Description	Mazda Part #
Exhaust Cam Sprocket	LF01-12-425
Intake Cam Sprocket	LF94-12-4X0C

- c. Cam timing must not be altered; chain must be installed as stated in the Mazda Factory Service Manual.  
d. OEM timing chain (Mazda part # LF7A-12-201) is required; no modification is permitted.  
e. OEM timing chain components must be used; see Table 9 for Mazda part numbers.

**Table 9: Timing Chain Guide Part #s**

Description	Mazda Part #
Fixed Guide	LF01-12-614
Tensioner Guide	LF01-12-671

## 5.8. Valves

- a. OEM valves must not be modified (including reshaping); see Table 10 for Mazda part numbers.

**Table 10: Valve Part #s**

Description	Mazda Part #
Intake Valve	LF01-12-111
Exhaust Valve	LF02-12-121F

- b. Valve location or angle must not be moved.  
c. Valve guides may not be replaced.  
d. Valve job measurements must be as follows: (Updated 2.5.2020.)  
I. 35 top 45 seat 65 bottom 77 bottom seating angle width is 1.0mm  
II. Exhaust 40 top 45 seating to radius seating angle width 1.2 mm.  
III. Valve stem installed height must be per the Mazda Factory Service Manual.  
IV. Valve stem seals must be OEM.

## 5.9. Valve Springs

- a. Mazda Motorsports' competition valve springs (part # 0000-01-5319-SP) are required.

## 5.10. Intake Manifold

- a. Unmodified OEM intake manifold (Mazda part # LF9G-13-130B) is required; no modification is permitted (e.g., no material may be added or removed; no painting or coating on the exterior or interior permitted).
- b. All air entering the engine must pass through the throttle body and be metered by the mass airflow sensor.
- c. Removal of factory EGR components listed below are permitted:
  - I. EGR valve
  - II. EGR crossover pipe
  - III. EGR coolant lines
- d. If factory EGR components are removed, the following ports must be blocked:
  - I. Intake manifold cross over pipe port.
  - II. Cylinder head cross over pipe port.
  - III. EGR valve port on back of cylinder head.

## 5.11. Intake System

- a. All cars must replace the OEM air box with the Mazda Motorsports competition cold air intake kit (part # 0000-06-5150-KT); no modification (e.g., ducting or baffling of air, venturi cones) to the cold air intake kit is permitted.
- b. No alteration to the intake tube length or diameter is permitted.
- c. The air filter supplied in the Mazda Motorsports competition cold air intake kit may be refreshed with the Mazda Motorsports' competition air filter (part # 0000-06-5204).

## 5.12. Fuel System

- a. OEM fuel pump (Mazda part # LFG1-13-350) is required; no modification is permitted.
- b. Mazda Motorsports' competition fuel rail that includes fuel pressure gauge, and fuel sampling test port and hose kit (part # 0000-06-5207) is required.
  - I. Fuel pressure gauge must be operational.
  - II. No modifications permitted.
  - III. **The addition of a switch or jumper located in the under-hood fuse box is allowed to activate the fuel pump. This modification may serve no other purpose. (Updated 2.5.2020.)**
- c. OEM fuel pressure regulator (Mazda part # LFB6-13-280) is required.

- I. Vehicle must run between 54 and 63 PSI of fuel pressure.
- d. OEM injectors (Mazda part # L3G5-13-250) are required; no modification is permitted.
  - I. Flow rates for the injectors must fall within the factory tolerance of 204-216ml (204-216 cc, 12.5-13.1 cu in/minute).

### **5.13. Lubrication System**

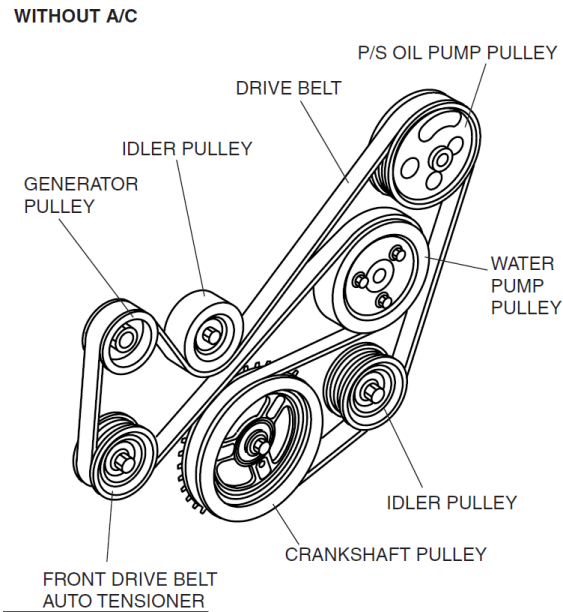
- a. OEM engine oil filter (Mazda part # LF05-14-302B) is required; no substitutions permitted.
- b. Mazda Motorsports' competition oil cooler adaptor kit with lines (part # 0000-01-5100KT) is required; no modification is permitted.
- c. Oil and lubricants are unrestricted.

### **5.14. Engine Control Unit (ECU)**

- a. Reference penalties for non-compliance of the Spec ECU flash in Section 21 below. Modification or attempted modification of the Spec ECU flash will result in a 12-month suspension from competition and \$1,000.00 fine.
- b. Mazda Motorsports' competition ECU (part # 0000-01-5379) is required; serial number must be visible; external or internal modification is not permitted.
- c. ECU calibrations and inputs must not be modified.
- d. OEM engine electrical harness (part # NH18-67-020A) is required; no modification is permitted.
- e. OBDII diagnostics port must be operational in all cars.
  - I. The check engine light must be operational and perform the function test at start up.
  - II. The OBDII port must be available at all times (including during the race) for tech officials to install test equipment as necessary.
  - III. If a competitor uses the OBDII port to power any type of data acquisition system the racer would be responsible for installing the splitter cable to plug in both units, or unplug the data acquisition system.
- f. Instrument panel clusters must be operational and unmodified OEM parts.
- g. Temporary data acquisition devices may be installed by the sanctioning body for purposes of technical compliance.

### **5.15. Miscellaneous**

- a. The factory air conditioning system and all associated lines, compressor, condenser and evaporator must be removed.
  - I. Once the AC compressor is removed, the OEM AC pulley delete kit (Mazda part # LF17-15-940E) is required.



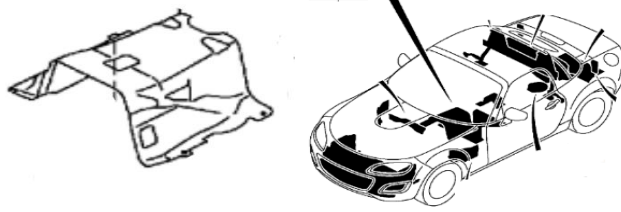
- b. OEM serpentine belt (Mazda part # LF9M-15-909A) is required.

## 6. Exhaust

- a. OEM exhaust manifold and OEM heat shield must be replaced with Mazda Motorsports' competition part # 0000-06-5407-NC; no modification is permitted (e.g., internal or external wraps, coatings, paints, metal treatments, thermal barriers etc.).
- b. OEM exhaust system must be replaced with Mazda Motorsports' competition part # 0000-06-5427-NC; no modification is permitted (e.g., internal or external wraps, coatings, paints, metal surface treatment, thermal barriers etc.).
- c. The forward oxygen (O<sub>2</sub>) sensor (OEM Lambda Sensor) must remain in the factory location and in full working order. Mazda Motorsports' competition O<sub>2</sub> sensor installation kit wiring extender (part # 0000-10-5320) is permitted.
- d. The secondary post catalytic oxygen (O<sub>2</sub>) sensor must be removed.
- e. Heat shielding
  - I. OEM heat shield protecting ABS unit from header may not be removed or modified.
  - II. OEM muffler heat shield may not be removed or modified.



- III. Use of heat shielding material on transmission tunnel to replace OEM heat shielding is permitted. OEM heat shielding must be removed from transmission tunnel.



## 7. Cooling System

- a. Mazda Motorsports' competition radiator and oil cooler assembly (part # 0000-01-5504-CR) is required (i.e. OEM is not permitted).
- b. The radiator using the OEM mounting brackets must be installed in its original location.
- c. Oil cooler may not be moved or altered from the pre-assembled mounting location.
- d. Air guide may be placed on each side of the radiator tanks and the undertray to force air through the radiator fins. The gap between the top and sides of the radiator may be sealed with tape, silicon, or foam.
- e. The unmodified OEM cooling fan must be maintained in full working order and mounted in the stock location.
- f. Thermostats may be modified, removed or replaced.
- g. OEM water pump (Mazda part # 1F70-15-100) is required; no modification is permitted.
- h. OEM water pump pulley (Mazda part # L327-15-131) is required; no modification is permitted.
- i. Engine cooling system hoses and clamps may be substituted.
- j. Heater core may be removed along with HVAC evaporator core.
- k. OEM engine coolant expansion tank may be replaced with any aftermarket part, and must not serve another purpose.

## 8. Clutch, Pressure Plate and Flywheel

- a. Vehicle must use the OEM clutch and pressure plate, or the aftermarket options listed in Table 11.

**Table 11: Clutch Component Part Numbers**

Description	Mazda Part #
Mazda Factory Clutch Disc	LF05-16-460A
Mazda Factory Pressure Plate	LF04-16-410A
ACT Sprung Clutch Disc	0000-02-5420-AC
ACT Pressure Plate	0000-02-5405-AC
ACT Clutch and PP Kit	0000-02-5004-G6

- b. The unmodified pressure plate must be bolted directly to the stock, unmodified flywheel.
- c. OEM flywheel (Mazda part # LF9G-11-500) is required; modification is not permitted.
- d. Alternate clutch lines are permitted and must not serve another purpose.
- e. Clutch components must adhere to the minimum weights listed in Table 12 below:

**Table 12: Flywheel and Clutch Weight**

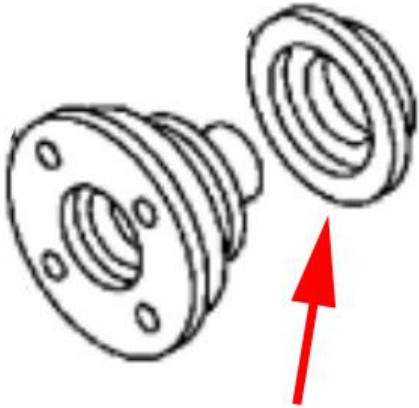
Description	Minimum Weight (lb.)
Clutch disc	3.5
Pressure Plate	9.4
Flywheel	16

## 9. Transmission

- a. OEM 2006-2015 6-speed gearbox and 4.10 final drive ratio are required.
- b. No modification of the internal parts and ratios are permitted except the installation of the unmodified parts contained in the Mazda Motorsports MX-5 transmission upgrade kit (part # 0000-02-5700).
- c. Gear ratios are as follows: 1st - 3.82; 2nd - 2.26; 3rd - 1.64; 4th - 1.18; 5th - 1.00; 6th - 0.83/0.79. There are two (2) production 6th gears; either one is permitted.
- d. Alternate shift knobs are permitted.
- e. Nomex or aftermarket fireproof shift boots are permitted. Removal of factory rubber shift boot is not permitted.
- f. No treating, coating, polishing or modification of any transmission or components are permitted.
- g. Fluids and/or lubricants may be substituted with any lubricant.
- h. Updating or backdating of transmissions from 2006–2015 is permitted; unmodified OEM shifters must be retained. The use of short throw shifters is prohibited.
- i. An inspection hole (not to exceed 1.5" in diameter) in the bottom of the bell housing is permitted for the sole purpose of tech inspection of the flywheel. It is permitted to plug or tape over that hole.

## 10. Differential

- a. Only the OEM, unmodified, limited slip differential (Mazda part # MS03-27-200B) or the OEM, unmodified, open differential are permitted.
- b. RX-8 differential mounting bracket (Mazda part # F151-39-730B) is permitted.
- c. Polishing, metal treatment or coating of differential or axle components are not permitted.
- d. **Removal of metal/rubber isolator on the pinion flange is permitted. (Updated 2.5.2020.)**



## 11. Suspension and Steering

- a. Suspension modifications are limited to the addition of the Mazda Motorsports Spec MX-5 kit; modification details are as follows:
  - b. OEM control arms are required; no modification is permitted.
  - c. Anti-roll bar links may be replaced with Mazda part # 0000-04-5597-KT
    - I. Cockpit adjustability is not permitted
  - d. Mazda Motorsports' competition sway bars are required; mounting guidelines:
    - I. Metal shims up to 1/8" total thickness are permitted between each anti-roll bar mount shackle and the stock mounting point on the chassis.
    - II. One end of the sway bar(s) may be disconnected as a suspension tuning aid.
    - III. The bar must remain in place and be solidly attached to the suspension on one end.
    - IV. Sway bar end links must be installed on the unmodified stock attachment points.
  - e. Camber, caster, and toe are unrestricted within the limits of the unmodified factory adjustments in conjunction with Mazda Motorsports front offset bushing (part # 000-04-5407-NC).
  - f. Minimum ride height is unrestricted.
  - g. Nuts & bolts may be replaced by similar items performing the same fastening function(s).
  - h. Relocation or reinforcement of any suspension component or mounting points are not permitted; the exceptions:
    - I. Addition of spacer or washers on a horizontal plane is permitted at the rear lower shock mount to the spindle per the shock installation instructions.

II. Updating to RX-8 rear toe link and rear trailing arm is permitted. See Table 13.

**Table 13: Permitted RX-8 Trailing Arm and Toe Link Part #s**

Description	Mazda Part #
RX-8 Trailing Arm	F189-28-200A
RX-8 Toe Link	F189-28-45XA

- i. OEM power steering pump with pulley (Mazda part # NE51-32-650D) is required; no modification is permitted.
- j. OEM power steering rack (Mazda part #: NE51-32-110C) is required; no modification is permitted.
- k. Factory power steering reservoir may be replaced.
- l. Wheel center caps must be removed.
- m. All chassis, structural and electrical repairs must follow factory procedures, specifications and dimensions. Reinforcement (e.g., seam welding, material addition, etc.) is not permitted.
- n. Steering lock mechanisms must be removed.
- o. The distance from the outside of the wheel rim to outside of the opposing wheel rim for both the front and rear of the vehicle must not exceed 69.0".
  - I. Measurement is obtained by measuring the distance between the wheel lips by going through the wheel spokes at the bottom of the wheel at its widest point via tape measure. Measure the outside wheel lip of one wheel to outside wheel lip of the other wheel on same axle.
- p. Mazda Motorsports' competition rear toe link (part # 0000-04-5426) is permitted; no modification is permitted.
- q. Items in Table 13 seen below are components within this kit. No substitution of parts is permitted. The unmodified kits must be used in their entirety, except as specified.

**Table 13: Spec MX-5 Suspension Kit** (All parts are required; no modification is permitted.)

Description	Location	Mazda Part #
Shocks*	Front	0000-04-5291-SA
	Rear	0000-04-5292-SA
Springs	Front	0000-04-9700-08
	Rear	0000-04-9400-07
Helper Springs	Front/Rear	0000-04-9926
Front Penske Mount Kit	Front	0000-04-5359
Rear Penske Mount Kit	Rear	0000-04-5358
Sway Bar Kit	Front and Rear	0000-04-5306-EB
Offset Bushings	Front	0000-04-5407-NC

\*Mazda Motorsports' competition spring spacer must be used on the front shock setup per the installation instructions.

## 12. Hubs

- a. OEM RX-8 front hub (Mazda part # F189-33-04X) may be substituted in place of the OEM Miata 2006-2015 front hub.
- b. Mazda Motorsports' competition RX-8 rear hub upgrade kit (part # 0000-04-5811-KT) may be substituted in place of the OEM MX-5 rear hubs; this unmodified kit must be used in its entirety.

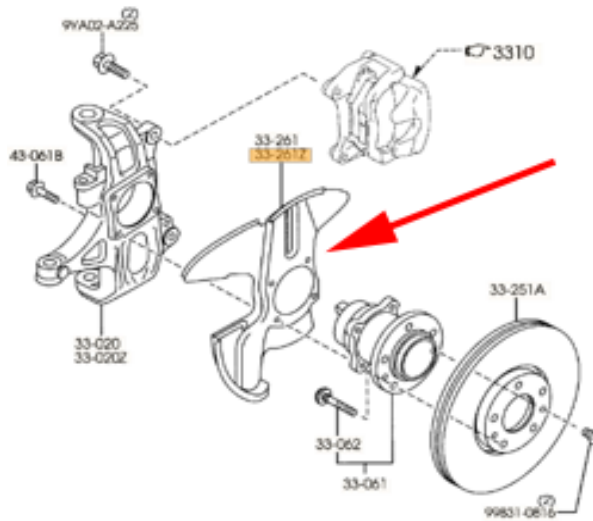
## 13. Brakes

- a. Stock **or OEM equivalent** brake rotors must be used and adhere to the specifications below in Table 14.

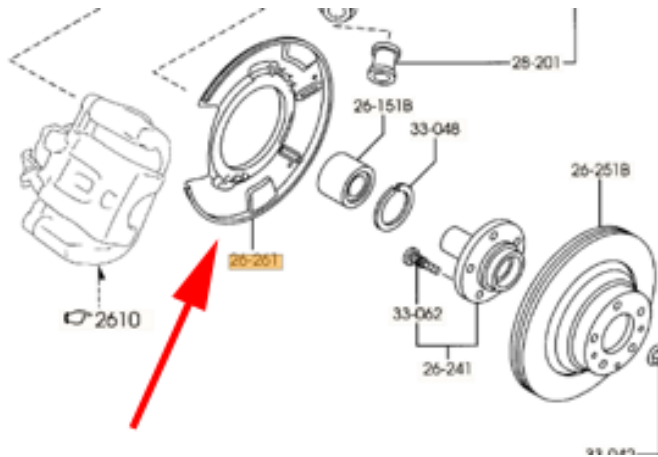
**Table 14: Brake Rotor Dimensions**

Location	Diameter	Notes
Front	290mm (11.4")	Vented
Rear	280mm (11.0")	Solid

- b. Front backing plates/dirt shields may be removed.



- c. Rear backing plates/dirt shields may be removed.



- d. Brake lines may be replaced with Mazda Motorsports' competition braided steel lines (part # 0000-03-5212).
- e. Factory ABS system must remain intact, unmodified and in full working order.
- f. Parking brake mechanisms and actuating components may be removed.
- g. Brake fluid is unrestricted.
- h. Mazda Motorsports' competition brake duct kit (part # 0000-03-5301) is permitted.
- i. The inner fender panels may be modified to fit the brake kit hose to the driving light openings but must serve no additional purpose.
- j. Mazda Motorsports' competition brake pads are required; see eligible brake pad compounds below. No other brake pads are permitted. All pads listed below are permitted in any combination.

**Table 15: Brake Pads**

Pad Style	Mazda Part #	Notes
Front Sprint	0000-03-5104-SP	Slick Tire Use
Front Endurance	0000-03-5104-EN	200 Tread Wear Tire Use
Rear Sprint	0000-03-5114-SP	Slick Tire Use
Rear Endurance	0000-03-5114-EN	Slick Tire / 200 Treadwear Tire Use

**14. Wheels** - The following unmodified wheel options below in Table 16 are permitted for use.

**Table 16: Wheels**

Description	Color	Mazda Part #
17x7" OEM Wheel	Gun Metallic	99656-47070
17x7" OEM Wheel	Silver	99656-77070
Mazda Motorsports' Competition MX-5 Wheel	Gun Metallic	0000-04-5706-GM
Mazda Motorsports' Competition MX-5 Wheel	Silver	0000-04-5706-SL

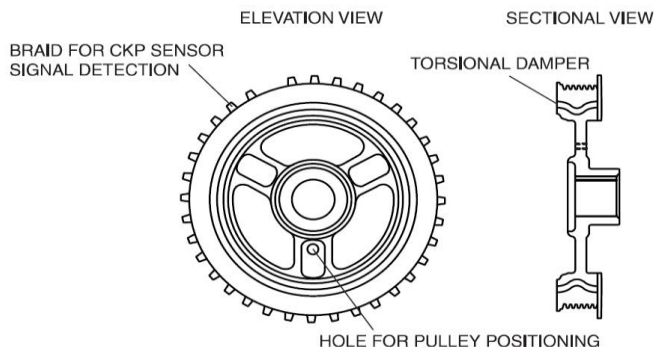
- a. Wheels may be painted.
- b. Aftermarket (any) wheel studs and lug nuts are permitted, provided that the threads must protrude beyond the lug nut with a minimum of two (2) full threads showing; studs may not be gun drilled.
- c. Wheel spacers are not permitted.

**15. Tires**

- a. Dry tires must be the Toyo RR P235/40ZR17.
- b. Wet tires must be the Toyo RA1 P235/40ZR17.

**16. Electrical Equipment**

- a. Unmodified OEM ignition coils (Mazda part # L3G2-18-100B) are required; no modification is permitted.
- b. Mazda Motorsports' competition spark plugs (part # 0000-10-R7IX-11) are required; no modification is permitted.
- c. The crankshaft position sensor and crankshaft pulley relationship must be as specified in the 2006-2015 MX-5 Factory Service Manual.



- d. OEM alternator (Mazda part # LF9H-18-300R-0A) is required; no modification is permitted.

- e. The alternator must not be externally regulated or disabled in any way other than by the OEM production ECU/wiring circuit and master kill switch.
- f. The electronic control module (ECM) control circuit for alternator charging must be OEM - unmodified and operational.
- g. OEM alternator drive pulley (part # AJ51-18-W10) is required; no modification is permitted.
- h. All sensors related to engine operating parameters must be used and must be stock, unmodified Mazda parts for the correct year of the vehicle.
- i. Any and all sensors and their respective locations, mounts and wiring harness leads may not be altered except as permitted elsewhere in the Spec-MX-5 rules.
- j. Any sensors required for non-OEM gauges must be in addition to the Mazda sensors.

- k. All alternate gauge and sensors must have independent wiring. Splicing, tapping or altering of the factory engine wiring harnesses is prohibited with the exception of adding an aftermarket tachometer/shift light.

- I. It is permitted to splice into the yellow wire with the black stripe (pin 2BA - Ignition Coil 1 control circuit) in the engine harness to obtain the tachometer signal for an aftermarket tachometer or shift light.

- II. Splicing must be done within 5" of the ECU.

- l. Data acquisition's sensor(s) may be added, provided they do not require splicing or alteration to the factory engine wiring harness.

m. Batteries

- I. Batteries may be replaced with those of an alternate manufacturer, provided they are of similar amp-hour capacity, and size (51 or 51R).

- II. Batteries must weigh no less than 18.0lb and no more than 28.0lb.

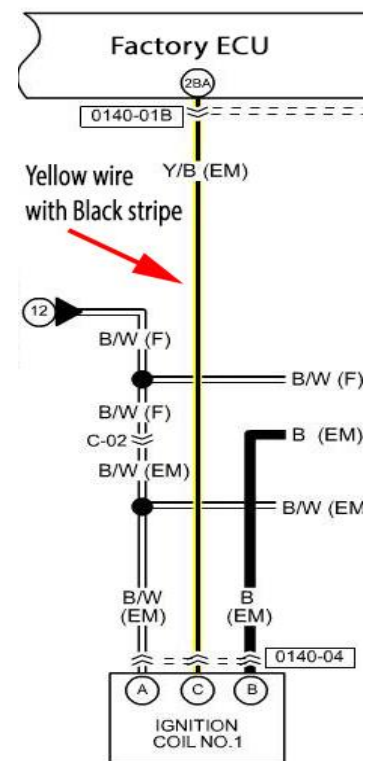
- III. Additional battery hold-down devices are recommended.

- IV. Battery may be moved from the original location into one of two (2) permitted locations:

- i. Passenger floorboard forward of the front factory seat mount cross member.
- ii. Passenger side in the upper trunk area in front of the tail lamp.

- V. Placement of the battery in the lower tool well is not permitted.

- VI. To preserve power to PCM, install safety equipment, or repair accident damage to a data system, there must be no additional wiring, connections, etc. to any wiring harness or component of the car.





## 17. Roll Cage

- a. Roll cage must adhere to SCCA's current GCR Section 9.4 for Touring 4 cars; the exceptions:
  - i. Vehicle may extend one tube per side from the door bars down to the rocker panel. The landing plate for this tube can be no longer than 5" in length and have one single tube not to exceed 1.75" in diameter. The landing plates need to be centered between the front and rear landing plates for the lower NASCAR or X brace bar.
  - ii. Main hoop mounting plates may be on multiple planes; however, they must not be greater than 19" on any side.
- b. Playboy MX-5 Cup car cages manufactured by Racing Cages Inc with the official serial number plate on the main hoop are allowed to retain the lower door bar and two 3" attachment points to the rocker panel on both the driver's side and passenger side. No additional seam welding or lengthening of the original attachment points are allowed. (Updated 2.5.2020.)

## 18. Safety

- a. An electrical master ("kill") switch is required. See current GCR Section 9.3 Master Switch.
- b. Vehicle must be equipped with a driver's restraint system meeting the specifications of current GCR Section 9.3 Drivers Restraint System.
- c. Installation of a fire extinguisher or fire system is required. See current GCR 9.3 Fire System.
- d. Vehicle must have a driver's side window safety net complying with current GCR Section 9.3 Window Safety Nets. Nets must be mounted to provide protection in the event the driver's door opens.

## 19. Data Acquisition

- a. Vehicle may be equipped with additional data acquisition systems consisting of a data logger, sensors and required wiring. The data acquisition system may perform no other function. Refer to Section 16: Electrical Equipment above for installation requirements.

## 20. Mandatory Video Camera

- a. Vehicle is required to use at least one (1) forward-facing video recording device while on track; the following is required:
  - I. Video format must be a digital file to be viewed in an MS Windows compatible standard viewer.
  - II. Camera must capture at least the "driver's eye view."
  - III. Camera must produce files with the correct time and date.

IV. Failure to comply will incur penalties and logbook documentation as stated in Table 17.

**Table 17: Video Camera Infractions**

<b>Description</b>	<b>Penalty</b>
First Offense	Warning
Second Offense	One (1) Race Suspension
Third Offense	Two (2) Race Suspension
Fourth Offense	One (1) Year Suspension

Note: Penalties may be reduced or removed for instances such as mechanical failure or on-track incidents.

## 21. Penalties

a. Any entrant found non-compliant in the following areas will be penalized as follows:

<b>Level</b>	<b>Infraction</b>	<b>Penalty</b>
1	Non-compliant modification to any of the spec parts, OEM engine components, ECU/Electronics or modification to the chassis.	12-month suspension and \$1,000.00 fine.
2	Non-compliant modification to the suspension or drivetrain outside of level one infractions: engine, fuel system, charging system, exhaust, and intake system.	Six (6) month suspension and \$500.00 fine.