

# Miata Compliance Training

- 1) Miata Years and Models
  - a) Classifications
  - b) Identifying body and engine types
  - c) VIN verification
- 2) Identifying Restrictor Sizes (SM)
- 3) Electronics
  - a) Location of ECU
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- 4) New Penske Shock Package
  - a) Tamper verification
- 5) Anti-Roll (sway bars)
- 6) Visual checks



# Car Classifications for the Miata

## ➤ Production

- Full prep and Limited Prep for EP
- Limited Prep only for FP

**NOTE:** one easy check for the Production NA and NB Miata is the cowl area where the original windshield wipers existed cannot be covered. The NC model came stock with the cowl area covered so it is legal on that model.

## ➤ GT

- GT2, GT3, GTL
  - Check SIR

## ➤ Super Touring

- STU, STL
- Spec Miata's running in STL must run the complete SM package except the spec tire only. Some competitors will remove the SM restrictor to compete in STL, that is not legal. Easy visual check

## ➤ Touring

- T1, T3, T4

## ➤ Spec Miata

## ➤ ITA, ITS



# Miata Years and Models

**NA1** - 90 - 93 (1.6)

**NA2** - 94 - 97 (1.8)

**NB1** - 99 - 00 (1.8)

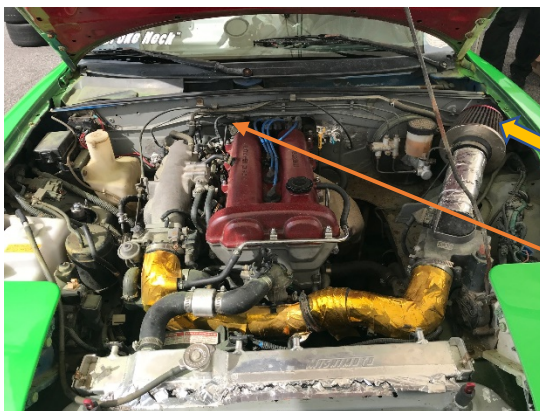
**NB2** - 01 - 05 (1.8) (VVT)

**NC** - 06 - 15

**ND** - 16 -

**NA1 - 90-93 (1.6)**

- Identified by the 'pop-up' style head lights
- Square doors at bottom
- Chrome door handles
- Open air intake. Intake plenum allowed to be wrapped
- Cam Position sensor is located on the rear passenger side of the head/valve cover



Cam Position Sensor Passenger side. Open Air Intake.



# Miata Years and Models

## NA2 – 94-97 (1.8)

- Identified by the 'pop-up' style head lights
- Square doors at bottom
- Closed air intake
- Cam Position Sensor (CPS) located on the rear driver side of the head/valve cover
- 94-95 does not have a Crank Position Sensor and no OBD port
- 96-97 does have a Crank Position sensor and first years to have an OBD port



Closed Air Intake & Cam Position Sensor located on the driver side rear valve cover.

## Miata Years and Models

### **NB1** - 99 - 00 (1.8)

- Identified by new style head lamps
- Rounded doors
- Recessed Door Handles
- Closed Air Intake
- Cam Position Electrical Sensor located front passenger side valve cover



Closed Air Intake & CPS located on passenger side

valve cover.

## Miata Years and Models

### NB2 - 01 - 05 (1.8) (VVT)

- Identified by new style head lamps
- Rounded doors
- Recessed Door handles
- Variable Valve Timing (VVT) located on the front top valve cover on the passenger side



Closed Air Intake. Variable Valve Timing (VVT) located on the front top valve cover on the passenger side.



# VIN Identification

Located in the middle of the Firewall above the valve cover. Count 10 digits in from left to right.

1990	L	1999	X
1991	M	2000	Y
1992	N	2001	1
1993	P	2002	2
1994	R	2003	3
1995	S	2004	4
1996	T	2005	5
1997	V		

# Spec Miata spec line

Reference current GCR for accuracy

SM	Bore x Stroke (mm) Displ. (cc)	Valves IN & EX (mm)	Restrict or Size (mm)	Comp. Ratio (without carbon)	Wheelbase (mm)	Gear Ratios	Final Drive	Brakes (mm)	Weight (lbs)	Notes
Mazda MX-5 / Miata (90-93)	78.13 (3.076") x 83.7 alternate 78.38 (3.086") x 83.7 1597	31.1 (I) 26.3 (E)	N/A	9.4	2266	3.14, 1.89, 1.33, 1.00, 0.81	4.3	(F) 235 Vented Disc (R) 232 Solid Disc	2275 or 2290 with alternate bore	
Mazda MX-5 / Miata (94-97)	83.13 (3.273") x 85.1 alternate 83.39 (3.283") x 85.1 1839	33.1 (I) 28.2 (E)	N/A	9.0	2266	3.14, 1.89, 1.33, 1.00, 0.81	4.3 See Notes	(F) 255 Vented Disc (R) 252 Solid Disc	2400 or 2415 with alternate bore	Must update to the 4.30:1 rear axle ratio as found in the 99+ cars.
Mazda MX-5 / Miata (99-00)	83.13 (3.273") x 85.1 alternate 83.39 (3.283") x 85.1 1839	33.1 (I) 28.2 (E)	38mm	9.5	2266	3.14, 1.89, 1.33, 1.00, 0.81	4.3	(F) 255 Vented Disc (R) 252 Solid Disc	2400 or 2415 with alternate bore	Maximum L dimension of 1.815" is permitted.
Mazda MX-5 / Miata (01-05)	83.13 (3.273") x 85.1 alternate 83.39 (3.283") x 85.1 1839	33.1 (I) 28.2 (E)	40mm	10.0	2266	3.14, 1.89, 1.33, 1.00, 0.81	4.3	(F) 255 Vented Disc (R) 252 Solid Disc	2425 or 2440 with alternate bore	

# Miata Years and Models

The NC and the ND are not classified in Spec Miata.

**NC – 06-15**

- Slightly flared fenders



**ND – 2016-present**





## Restrictor Identification (SM)

- Restrictor is located between the throttle body and air intake
- Must have a gasket on both sides of the restrictor
- *Restrictor must have the SCCA stamped or Mazda etched logo*
- Restrictor size is absolute maximum
  - Color of the restrictor must match the year
  - 99-00 – Purple
  - 01-05 – Silver



# Electronics

- ECU must be located the stock location
  - NA will be on the passenger side floor board foot well
  - NB is mounted vertically under the dash on the far left side
- OBDII port must be operational on all Miata's from 1996 to present
  - Plug in a scanner to verify port is live
  - One quick compliance check if you have a thermal reader
    - Take a water temperature reading from the water housing at the sensor located on the back of the engine
    - Check the difference with the water temperature reading from the OBDII scanner
    - If the OBDII scanner is reading 20 degrees, or more, cooler than the thermal reading then the wiring harness has been modified. This is done to make the computer think it's running cooler and leaner than it really is.

# Shock Compliance

- Penske Shocks
  - Identified by Black anodized shock body
  - Tamperproof crimps in shock body at bearing cap
  - Mazda Motorsports etched Logo
  - Serial number verification with database

# Anti-Roll

(Sway Bars)

This is an easy non-intrusive check.

## NA1 – 90-93

Front 24mm Adjustable  
Rear 15mm Adjustable

## NA2 – 94-97

Front 27mm non-Adjustable (only one hole to attach end link)  
Rear 15mm Adjustable

*or*

Front 24mm Adjustable  
Rear 15mm Adjustable

## NB1 – 99-00

Front 27mm non-Adjustable (only one hole to attach end link)  
Rear 15mm Adjustable

## NB2-01-05

Front 27mm non-Adjustable (only one hole to attach end link)  
Rear 15mm Adjustable



# Visual Checks

- Check Intake manifold for coatings
  - No paint or any type of coatings applied to aluminum casting
- Hard top securely fastened
  - Loose attachments at rear trunk provides aerodynamic advantage. Hard top should not lift up and should be securely fastened.
- **Tire sizes:** P205/50ZR15 Hoosier “SM7” Spec Miata Dry  
P205/50R15 Hoosier “H2O” Spec Miata Wet tires
  - **NOTE: Updated info in the March Fastrack**
- Check for mirrors and windshield wipers are in place
- Battery located in right rear trunk and securely fastened
- Various safety checks
- Required decals
- Body damage
- If you are in possession of the electronic sono tool used for measuring Roll Bar thickness, you can check the diameter of rear axles for gun drilling. Stock axle will measure right at 1” thick. If you have anything different and it appears to be something significantly less than that, then the axle is suspect.
- OEM style oil filter
  - It’s been found that the SM community are using aftermarket oil filters. The rule says OEM style. Here is a picture of the size that should be on the car.

