Introduction

New technical rules for the MX-5 Club of NSW Motorsport Championship were introduced at the start of 2020, to coincide with the change to a calendar year-based competition season.

In the previous rules which applied up to the end of 2019, cars within each class were 'equalised' by allowing differing levels of modifications. The idea was to achieve similar performance on the track. The effectiveness of this strategy was somewhat questionable. Another major limitation was the lack of uniformity in the technical rules across different models – especially the NC and ND models.

In the 2020 technical rules, the way in which cars are grouped within these rules was changed to allow a uniform set of rules to be applied across all models of MX-5, without causing an explosion in the number of classes needed.

In the 2020 rules, there is no attempt to 'equalise' cars on a technical basis. Instead, cars are grouped according to benchmark lap times. For example, all naturally aspirated NB models are grouped together, including Heritage and 10AE, since historically, the different technical specifications have not translated into faster lap times.

The division of classes in the 2020 rules is based upon a specified level of modification allowed for all models. Within each class, models of MX-5s are grouped according to historical or predicted lap times. In order to compare different categories of MX-5 within each Class, a benchmark time is assigned to each category, with cars in each category competing against the benchmark for that category. A different set of benchmarks will be used for each circuit that hosts a round of the championship.

For each driver at a round, their Class score is determined from their benchmark time, divided by their fastest lap time, multiplied by 100 to give a percentage score. For example, a Wakefield Park time of 1:17.046 in a Standard NC soft-top compared to the benchmark of 1:11.7 (71.7s), achieves a score of 93.06%. In the same Class, a Standard NA6 with a time of 1:19.990 compared to the benchmark of 1:15.0 (75.0s), achieves a score of 93.76%. In this example, the NA6 driver is ranked ahead of the NC driver in Standard Class because they achieved a higher percentage score. Trophies for first, second and third in each Class will be awarded based on an annual point score whereby points will be awarded at each event as follows:

Place	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17+
Points	25	22	20	18	16	14	12	10	9	8	7	6	5	4	3	2	1

One round per year is excluded from the total points attained by each driver, for the round at which they accrued the least points. This is referred to as a drop round.

Class Structure

Five Classes have been defined:

1. Standard
2. Clubman
3. Super Clubman
4. Modified
5. Open

These classes have uniform technical rules which state what modifications are allowed within each of the classes. Within each of these classes, models of MX-5s are grouped into 'Categories' based on benchmark lap times. Where possible, historical lap time data has been used. Where this data has not been available, factory power-to-weight ratios have been used to extrapolate a benchmark time, as analysis has shown that this is a reasonable predictor of lap times when comparing different models. The benchmarks for Clubman are 2.5% faster than Standard, Super Clubman are 3.5% faster than Standard, and Modified are 5.5% faster than standard. The rationale is that higher levels of modification are expected to make a car increasingly faster than the base model. Optimal lap records for a variety of classes were used to calibrate the relative differences between classes. Refer to the appendices for a more detailed explanation of how this analysis was performed.

Class Numbers

These are the numbers that should be used to indicate your class when entering MX-5 Club Track Days using our event entry system.

Class	Class Description	Category	Models
1A	Standard MX-5 - 1	A	NA6
1B	Standard MX-5 - 1	B	NA8, NB8A/B/C/D
1C	Standard MX-5 - 1	C	ND15A/B
1D	Standard MX-5 - 1	D	NB SE
1E	Standard MX-5 - 1	E	NC RC
1F	Standard MX-5 - 1	F	NC, NDRFA
1G	Standard MX-5 - 1	G	ND20A
1H	Standard MX-5 - 1	H	NDRFB
1.J	Standard MX-5 - 1	J	NB SP
1K	Standard MX-5 - 1	K	ND20B
2A	Clubman MX-5 - 2	A	NA6
2B	Clubman MX-5 - 2	B	NA8, NB8A/B/C/D
2C	Clubman MX-5 - 2	C	ND15A/B
2D	Clubman MX-5 - 2	D	NB SE
2E	Clubman MX-5 - 2	E	NC RC
2F	Clubman MX-5 - 2	F	NC, NDRFA
2G	Clubman MX-5 - 2	G	ND20A, NC 2.5L
2H	Clubman MX-5 - 2	H	NDRFB
2.J	Clubman MX-5 - 2	J	NB SP
2K	Clubman MX-5 - 2	K	ND20B
3A	Super Clubman MX-5 - 3	A	NA6
3B	Super Clubman MX-5 - 3	B	NA8, NB8A/B/C/D
3C	Super Clubman MX-5 - 3	C	ND15A/B
3D	Super Clubman MX-5 - 3	D	NB SE
3E	Super Clubman MX-5 - 3	E	NC RC
3F	Super Clubman MX-5 - 3	F	NC, NDRFA
3G	Super Clubman MX-5 - 3	G	ND20A, NC 2.5L
3H	Super Clubman MX-5 - 3	H	NDRFB
3.J	Super Clubman MX-5 - 3	J	NB SP
3K	Super Clubman MX-5 - 3	K	ND20B
4A	Modified MX-5 - 4	A	NA6
4B	Modified MX-5 - 4	B	NA8, NB8A/B/C/D
4C	Modified MX-5 - 4	C	ND15A/B
4D	Modified MX-5 - 4	D	NB SE
4E	Modified MX-5 - 4	E	NC RC
4F	Modified MX-5 - 4	F	NC, NDRFA
4G	Modified MX-5 - 4	G	ND20A, NC 2.5L
4H	Modified MX-5 - 4	H	NDRFB
4.J	Modified MX-5 - 4	J	NB SP
4K	Modified MX-5 - 4	K	ND20B
5N	Open MX-5 - 5	N	Naturally Aspirated
5T	Open MX-5 - 5	T	Forced Induction
6O	Member, non-MX-5	O	
7V	Non-member	V	

Technical Rules

Please refer to the separate document which describes the technical rules for each Class.

The intent of this class structure is to provide a logical progression in terms of technical development from a standard road-going MX-5 through various levels of modification up to a dedicated MX-5 race car. The step between Classes whilst not entirely uniform, is intended to achieve a steady progression in terms of performance potential, and the level of cost needed to achieve that potential.

There were however some constraints. At one end there are standard road cars. At the other end are fully developed MX-5 race cars. Standard road cars must be standard, apart from safety modifications and very limited allowance with tyre size.

The Clubman and Super Clubman Classes are intended to be firstly road cars, providing two levels of modifications making them more suited to track days. The Clubman Class is intended to be a 'mildly' modified road car with a relatively small number of common (mainly suspension) modifications allowing a cost-effective upgrade to the standard model. Super Clubman allows twice the level of modifications as Clubman, allowing the cars to be more track focused.

The NSW Supersprint Type RR category is somewhere between Clubman and Super Clubman. It is not feasible to exactly align Clubman or Super Clubman with Type RR as the level of modifications permitted is much greater than is deemed desirable for Clubman, but does not allow a number of common modifications that are permitted in Clubman and Super Clubman.

However, the technical rules defined for Super Clubman allow for a legal Type RR car to be built utilising all available points in Super Clubman. Club competitors wishing to compete in the Type RR category in the NSW Supersprint Championship should read the Type RR rules carefully as there are differences from the MX-5 Clubman and Super Clubman rules.

The rules for the MX-5 Club 'Modified' Class are defined as being those of the NSW Type RM class, with the exception that MX-5 Superprint Class cars do not need to be road registered, and ITBs (Independent Throttle Bodies) are explicitly allowed. Competitors in the MX-5 Modified Class therefore need to be intimately acquainted with the NSW Supersprint Type RM technical rules.

Cars in the Open Class are expected to fit into Type 2R (CAMS 2F), Type 2S (CAMS 2B), Type RM or Type TA in the NSW Supersprint rules.

The final decision concerning which Class any particular car fits into is at the discretion of the Competition Secretary whose decision is final.

Cars that don't fit within these rules

There are MX-5s that don't fit neatly into these new rules. These are covered in this section.

Factory turbo MX-5s

Under the current technical rules, NB SE and NB SP models compete in Standard, Clubman and Super Clubman Classes if they comply with the specifications for those classes. The benchmark times defined for these cars are listed below.

Any SE or SP cars not complying with Standard, Clubman or Super Clubman Class rules will compete in the Modified Class, even if they don't fit within the NSW Supersprint

Type RM rules, and will use the Modified SP benchmark time. Note that turbo modifications are very restricted in Super Clubman (and not permitted in Clubman at all).

2.5L NCs

Given that 2.5L NCs are very uncommon, they will be dealt with on an individual basis. 2.5L NCs will be permitted to compete in all Classes except Standard. The benchmark time for each car will be derived using a power figure of 128kW and kerb weight of 1135kg to estimate a Standard benchmark from which the usual scaling will be applied to work out a benchmark for the particular Class the car is competing in (Clubman, Super Clubman, Modified).

Benchmark Times

Tables published on the Club website (https://nsw.mx5.com.au/motorsport/club-track-days/benchmark-times) define the Categories within each Class, and the progression in benchmark times between Standard, Clubman, Super Clubman and Modified Classes.

The Open Class is treated differently – just natural aspirated and forced induction. The theory is that the level of modification is such that a distinction between models is less important. It is acknowledged that there is still expected to be a difference (for example an NB to an ND), but experience with MX-5 Cup indicates that all models can be competitive in their class.

Benchmark times for Open Class are based on lap records for naturally aspirated and forced induction MX-5s at club track days. Where these times are slower than the fastest times for Modified classes, the Modified benchmark is used for category N (NA) and category T (FI) is set at about 2% faster.

Changes for 2024 from 2023

1. SMP Amaroo - Category C, E up to 0.6s slower

2. SMP Amaroo - Category G, H, K up to 0.7s faster

3. Pheasant Wood - Category C, E up to 1.5s slower

4. Pheasant Wood - Category G, H, K up to 2.2s faster

5. Pheasant Wood - Open Class up to 2.0s faster (to align with fastest benchmark in Modified)

6. The old Wakefield Park benchmarks will be used for One Raceway in 2024. Adjustment will be made for 2025 once new times are available for calibration.

7. The actual tables of benchmark times are shown on the MX-5 Club website at https://nsw.mx5.com.au/motorsport/club-track-days/benchmark-times

Scoring

MX-5 Club track days are 'supersprint' format, meaning that the fastest lap time for each competitor over the course of the day will be used for calculating the result for that competitor.

Details of scoring for the MX-5 Motorsport Championship have been defined in the introduction, but any changes will be notified before the start of the season.

Adverse Conditions

The benchmark times described in the earlier section are based on optimal track conditions. Events that are adversely affected by rain or high heat will obviously produce slower lap times. This is accounted for in the scoring system as points are based on the ranking of benchmark percentage scores.

New Circuits

It is possible that the MX-5 Club will at some stage conduct a round of the Motorsport Championship on a circuit not covered by the benchmark times described above. By definition, there will not be historical lap times to base benchmarks on for the new circuit. Benchmarks for the new circuit will be extrapolated from a known track of similar style (e.g. Wakefield Park). Adjustments will be made in subsequent seasons as historical records are built up for the new track.

Adjustments to benchmark times and Categories

Benchmark times and categories will be adjusted annually prior to the start of each season, based on the scores in the previous season. Revisions to all benchmark times (including when the adjustments are made) will be the responsibility of the Competition Secretary or delegate. The decision of the Competition Secretary is final.

Appendix A – Factory power and weight figures

MX-5 Models

Model	Description	Years	Power (kW)	Kerb weight (kg)	kg/kW
NA6	1.6L NA 5-speed	1989-1993	85	955	11.2
NA8	1.8L NA 5-speed	1993-1997	98	980	10.0
NB8A	1.8L NB 5-speed	1998-2000	106	1048	9.9
NB8B	1.8L NA 6-speed	2000-2002	107 *	1085	10.1
NB SP	1.8L NB turbo 6-speed	2002	150	1100	7.3
NB8C/D	1.8L NA 6-speed	2002-2005	107	1086	10.1
NB SE	1.8L NB turbo 6-speed + LSD	2004-2005	121	1119	9.2
NC	2.0L NC soft-top 6-speed	2005-2012	118	1105	9.4
NC RC	2.0L NC Roadster Coupe	2006-2014	118	1167	9.9
ND15A	1.5L ND 6-speed Series 1	2015-2018	96	1009	10.5
ND20A	2.0L ND soft-top 6-speed Series 1	2015-2018	118	1033	8.8
NDRFA	2.0L ND RF 6-speed Series 1	2016-2018	118	1080	9.2
ND15B	1.5L ND 6-speed Series 2	2018-2022	97	1012	10.4
ND20B	2.0L ND soft-top 6-speed Series 2	2018-2023	135	1035	7.7
NDRFB	2.0L ND RF 6-speed Series 2	2018-2023	135	1087	8.1

Notes:

- NB8B was originally quoted as 113 kW, and power "reduced" to 107 kW for the NB8C due to corrected test procedures. Dyno-day testing confirmed no difference in power at the wheels for NB8B and NB8C models.
- Models with an LSD and/or Bilstein shocks as standard (eg. NA8 Clubman, NB8A 10AE, NC Special Edition), are eligible to compete in Standard class. However, these factory additions are included in the modification count for Clubman and Super Clubman class.

Appendix B - Club records

Standard Class Optimal Records - Wakefield Park

Model	kg/kW	Record	Date	Driver	Vehicle
NA6	11.2	74.978	30 Jul 2011	Bryan Shedden	Mazda MX-5 1992 *
NB8B	10.1	73.688	8 Nov 2020	Michael DeMaio	Mazda MX-5 2002
NC	9.4	71.894	1 Jul 2018	Bryan Shedden	Mazda MX-5 2006
ND20A	8.8	70.802	17 Sep 2018	Jie Ren	Mazda MX-5 2016

* with old Bridgestone RE55S tyres - considered to be equivalent to current 200 UTQG tyres

Standard Class Optimal Records - Sydney Motorsport Park Amaroo Circuit

Model	kg/kW	Record	Date	Driver	Vehicle
NA6	11.2	68.356	28 Jul 2013	Bryan Shedden	Mazda MX-5 1992 *
NB8B	10.1	67.641	7 Jul 2019	Michael DeMaio	Mazda MX-5 2002
NC	9.4	65.902	24 Jun 2017	Luke Kovacic	Mazda MX-5 2007
ND20A	8.8	65.438	18 Aug 2018	Luke Kovacic	Mazda MX-5 2016
ND20B	7.7	63.909	16 Jul 2023	Jie Ren	Mazda MX-5 2020

* with old Bridgestone RE11S tyres - considered to be equivalent to current 200 UTQG tyres

Standard Class Optimal Records - Pheasant Wood

Model	kg/kW	Record	Date	Driver	Vehicle
NB8B	10.1	63.541	18 Oct 2020	Michael DeMaio	Mazda MX-5 2002
NC	9.4	62.466	18 Oct 2020	Bryan Shedden	Mazda MX-5 2006
ND20B	7.7	59.169	13 Aug 2023	Jie Ren	Mazda MX-5 2022

Standard Class Optimal Records – Winton Long

Model	kg/kW	Record	Date	Driver	Vehicle
NB8B	10.1	106.06	7 Mar 2020	Michael DeMaio	Mazda MX-5 2002
NC	9.4	103.14	26 Nov 2016	Luke Kovacic	Mazda MX-5 2007

Open Class Optimal Records

Track	Cat.	Record	Date	Driver	Vehicle
WP	NA	65.840	11 Sep 2016	Chris White	Mazda MX-5 1994
WP	FI	62.945	2 Jun 2019	Brendan Beavis	Mazda MX-5 2001
SMPA	NA	60.110	6 Jul 2013	Daniel Deckers	Mazda MX-5 2006
SMPA	FI	58.860	29 Aug 2015	Daniel Aplin	Mazda MX-5 1990
PW	NA	57.630	18 Oct 2020	David Lawler	Mazda MX-5 2006

Clubman Class Optimal Records – calibration of 2.0% benchmark adjustment

Model	Track	Record	Score	Date	Driver	Vehicle
NA6	WP	73.660	99.8%	18 Nov 2020	Jamie Martin	Mazda MX-5 1989
NB8B	WP	73.520	98.2%	22 May 2022	Michael DeMaio	Mazda MX-5 2002
NA6	SMPA	67.397	99.4%	7 Jul 2019	Jamie Martin	Mazda MX-5 1989
NB8B	SMPA	67.670	98.0%	27 Apr 2014	Gustavo Elias	Mazda MX-5 2000
NC	SMPA	65.109	99.2%	16 Jul 2023	John Karayannis	Mazda MX-5 2009
NC RC	SMPA	66.439	98.2%	7 Jul 2019	Glenn Thomas	Mazda MX-5 2013
NA6	PW	63.110	99.7%	18 Oct 2020	Jamie Martin	Mazda MX-5 1989
NB8B	PW	62.753	99.2%	20 Mar 2022	Michael DeMaio	Mazda MX-5 2002
NC	PW	61.066	100.2%	13 Aug 2023	John Karayannis	Mazda MX-5 2009
NC RC	PW	62.830	99.0%	13 Aug 2023	Sean Byers	Mazda MX-5 2010

Super Clubman Class Optimal Records – calibration of 3.5% benchmark adjustment

Model	Track	Record	Score	Date	Driver	Vehicle
NA6	WP	73.426	98.5%	7 Nov 2021	Jamie Martin	Mazda MX-5 1989
NB8A	WP	72.460	98.1%	14 Feb 2022	Gerardo Martin	Mazda MX-5 1999
NB8B	WP	72.538	98.0%	17 May 2021	John Karayannis	Mazda MX-5 2000
NA6	SMPA	66.251	99.6%	18 Aug 2018	Mat Fraser	Mazda MX-5 1990
NB8A	SMPA	66.763	97.8%	16 Jul 2023	Gerardo Martin	Mazda MX-5 1999
NB8B	SMPA	66.809	97.7%	26 Feb 2023	John Karayannis	Mazda MX-5 2000
NA6	PW	61.803	100.2%	22 Mar 2020	Jaxon Fraser	Mazda MX-5 1990
NB8A	PW	60.808	100.8%	20 Aug 2022	Gerardo Martin	Mazda MX-5 1999
NB8B	PW	62.377	98.3%	26 Mar 2023	John Karayannis	Mazda MX-5 2000

Modified Class Optimal Records – calibration of 5.5% benchmark adjustment

Model	Track	Record	Score	Date	Driver	Vehicle
NB8A	WP	69.999	99.5%	26 Nov 2017	Malcolm Steel	Mazda MX-5 1999
NB8B	WP	69.350	100.4%	9 May 2011	Mark Hellmund	Mazda MX-5 2001
NB SE	WP	68.534	100.2%	16 Sep 2018	Luke Kovacic	Mazda MX-5 2004
NB8B	SMPA	64.419	99.2%	18 Aug 2018	Gustavo Elias	Mazda MX-5 2000
NB SE	SMPA	63.426	99.9%	19 Aug 2018	Luke Kovacic	Mazda MX-5 2004
NA6	PW	60.786	99.8%	18 Oct 2020	Jaxon Fraser	Mazda MX-5 1990
NC	PW	59.387	99.4%	20 Aug 2022	Luke Kovacic	Mazda MX-5 2009