



MSCC TECHNIQUES SPEED CHAMPIONSHIP

MSCC TECHNIQUES SPEED CHAMPIONSHIP 2019

1. SPORTING REGULATIONS – GENERAL

1.1 Title and Jurisdiction

The MSCC Techniques Speed Championship is organised and administered by the Morgan Sports Car Club in accordance with the General Regulations of the Royal Automobile Club Motor Sports Association (Motorsport UK) (incorporating the provisions of the International Sporting Code of the FIA) and these regulations.

Motorsport UK Permit Number	CH2019/SO73(D)
Motorsport UK Championship Grade	D

1.2 Officials

1.2.1. The Championship Co-ordinator is: Mrs Julie Baines
31, Seven Stiles Drive
Marple
Cheshire
SK6 6LT

1.2.2. Eligibility Scrutineer: Mr John Wasilewski
Myrr Hill
Shield Hall Lane
Sowerby
Halifax

1.2.3. Championship Stewards: Mr Peter Chapman
Mr David Bright
Mr Iain Leviston

1.3 Competitor Eligibility

1.3.1 Entrants must be fully paid-up valid membership card holding members of the Morgan Sports Car Club and be in possession of a valid 2019 Motorsport UK Entrants Licence.

1.3.2 Drivers and Entrant / Drivers must be fully paid-up valid membership card holding members of the Morgan Sports Car Club, be registered for the Championship and be in possession of a valid Competition Licence, Non-race National 'B' (Minimum).

1.3.3 All necessary documentation must be presented for checking at "signing on" at all rounds.

1.4 Registration

1.4.1 Competitors can register for the Championship by completing the Entry Form included with these Regulations and signing the “Declaration” Form which indemnifies the organisers and fellow competitors.

1.4.2 A Fee of £ 35.00 is payable on registration and must be in the organisers hands before Championship points can be awarded.

1.5 Championship Rounds

The Championship will consist of 17 rounds, the best score of a minimum of 3 and a maximum of 6 rounds to count for the Championship.

The best score must include a minimum of 2 rounds from any hillclimb events

AND

a minimum of 2 rounds from any sprint events.

	Date 1.5.1.	Venue 1.5.2.	Club 1.5.3	H/C or S
1	22 nd April	Croft	Darlington Motor Club	S
2	28 th April	Wiscombe Park	Woolbridge MC	H
3	4 th May	Ty Croes (National)	MG Car Club	S
4	5 th May	Ty Croes (International)	MG Car Club	S
5	12 th May	Debden	Herts County A.A.C	S
6	2 nd June	Harewood	BARC Yorkshire	H
7	15 th June	3 Sisters	Longton & District	S
8	16 th June	Gurston Down	BARC SW	H
9	29 th June	Aintree	Liverpool Motor Club	S
10	21 st July	Loton Park	Hagley & District Club	H
11	3 rd August	Goodwood	Bognor Regis MC	S
12	1 st September	Curborough Fig of 8	Morgan Sports Car Club	S
13	1 st September	Curborough 2 Lap	Morgan Sports Car Club	S
14	7 th September	Blyton Park	Nottingham Sports Car Club	S
15	8 th September	Blyton Park	Nottingham Sports Car Club	S
16	22 nd September	Shelsley Walsh	Midland Automobile Club	H
17	6 th October	Prescott	Bugatti Owners Club	H

1.6 Scoring

1.6.1. a) For each Class of car at all the venues visited, there will normally be a fastest ever time recorded (the Class Record), and scoring is based upon a competitor's performance relative to the Class record shown in the table at Appendix 16 for their class at that venue.

Appendix 16 shows the target times, reflecting class records, for all venues for a car running on List 1a, List 1b or List 1c tyres or slicks, as defined in section (L) of the Motorsport UK yearbook.

1.6.1 b) If a class record is improved during a season, the new class record time will supercede the time indicated on Appendix 16 for the duration of the season.

1.6.1 c) At a new venue, where there are no class records, or an existing venue where the course design results in existing target times being unusable (Refer to Appendix 21), then the target times will be derived from the best performing practice time from all entrants in the Morgan only class. All remaining target times will be derived from the Appendices as described in paragraph 1.6.1d).

1.6.1. d) In order to ensure that each class target time represents the true performance of the particular class, the determination of class times will be subject to the provisions set out in Appendices 17 and 18 for a Twisty Sprint and Appendices 19 and 20 for a Fast Sprint. The definition of the type of sprint – Twisty or Fast, will be determined by the Championship Organisers prior to the commencement of the event. In the event that the track conditions do not remain constant due to weather during the practice session, then paragraph 1.6.1.d) shall prevail and estimation of times shall not be applied.

1.6.1 e) In the event of a tie, either in times, or times relative to class records, then those competitors will each receive the same points.

1.6.1 f) Points will be awarded based upon a performance scoring system.

Each driver's best recorded time will be calculated as a percentage of the respective class target time – $((\text{Recorded Time}/\text{Target Time}) * 100) - 200 * (-1) = \text{Score}$.

The driver with the highest score will be the winner. All scores will be calculated to one decimal point.

If the winner scores less than 100 points, then his score will be uplifted to 100 points. In this instance, each competitors score will be uplifted by the same numerical value.

Example 1

A competitor records a fastest time of 78.47 seconds and his target time is 76.23 seconds. His calculated score is $((78.47/76.23)*100)-200*(-1) = 97.1$ points. If he achieves the highest score on the day, add 2.9 points to each competitors score.

If the winner scores greater than 100 points by beating the target time, then all other scores remain as calculated, without any resetting of scores. Each competitor who records a time less than their target time will be awarded an additional 1 bonus point at that meeting.

The maximum score that can be awarded in any one event is 105 points.

Example 2

A competitor records a fastest time of 78.47 seconds and his target time is 80.23 seconds. His calculated score is $((78.47/80.23)*100)-200*(-1) = 102.2$ points + 1 bonus point.

1.6.1 g) At a new venue, where there are no class records, or an existing venue where the course design results in existing target times being unusable (Refer to Appendix 21), the maximum points that shall be awarded is 100. All remaining scores will be reduced by the differences as calculated in paragraph 1.6.1 f).

Example

If 3 competitors complete an event and their scores, as calculated, according to paragraph 1.6.1 f) are as follows – 105, 102, 98.

The points scores will be reset as follows – 100, 97, 93.

1.6.1 h) In a Morgan only class, where there is a points tie on handicap from a particular run, that run shall be ignored and the Class Award on the day shall be made using times achieved in the respective competitor's second best timed runs, but the championship points will be awarded from the times of the best runs.

1.6.1 i) Irrespective of any separation (by an organising club) of registered competitors in this championship into two or more classes; points will be awarded as if all competitors are in a single class, and position in the class, as defined by the organising club shall have no relevance to points awarded under these regulations.

1.6.1 j) A competitor will only be eligible to score points if he/she has completed at least one competitive timed run.

1.6.1 j) A competitor will be deemed to have competed at an event if he/she has started at least one practice run.

1.6.2. Ties

In the event of a tie occurring, in the overall championship, either in the overall winner's awards or within any Class, the 7th, 8th and so on best scores will be included to determine the outcome.

If the competitors have only competed in 6 events or less, the highest mean score per event, will be used to determine the outcome.

Failing this, if the competitors have achieved equal mean scores per event, the highest individual event score(s) achieved throughout the season will be used to determine the outcome.

1.6.3. Championship Points Appeal

Any appeal against points awarded (or not awarded) must be lodged within 7 Days of the first publication of Championship results for any particular round. Any appeals must be lodged with the Championship Co-Ordinator in accordance with C6.5.

Awards

1.7.1 At the end of the Season, awards will be made on the following basis:

A Competitor is only eligible for an award if he has scored points in a minimum of 3 Championship rounds.

The Competitor amassing the HIGHEST total score from his or her SIX Best Scores will win their respective Class and the next highest score will come second etc. Awards will be made in the following manner i.e.

Up to 3 Competitors in Class	---	Award to first in Class only
Up to 6 Competitors in Class	---	Awards to first and second.
More than 6 Competitors in Class	---	Awards to first, second and third

The OVERALL Championship Winner will be the Competitor who gains the highest Score from his or her minimum of 3 and maximum of 6 Best Scores irrespective of Class. This Competitor will receive the Championship winner's award only and will forfeit the Class award, which will be given to the second competitor in that Class.

A Ladies award will be presented if 3 or more ladies register for the championship. The Ladies award will be given on the same basis as the overall winner, and any Class award will be forfeited, however, if a class award is achieved, the option to receive the class award instead of the Ladies award will be given. If this is accepted, the Ladies award will be forfeited and be presented to the second lady competitor in the Championship.

A Novice award will be given for the best score from a Competitor who is competing in his 1st season and has not been awarded any Class award.

An Improver's award will be given for the Competitor, who is judged by the Championship Organisers, to have achieved the greatest overall improvement in performance from the previous season and has not previously won a Class award.

1.7.2 These awards will be cups or plaques and will be perpetual.

1.7.3 The **New Elms Classic Cup** award will be presented to the Competitor who gains the 3 best scores, of which at least one must be from each discipline (hillclimb and sprint), from 5 nominated championship events. Competitors will be required to compete at a minimum of 3 of the nominated championship events to be eligible for the award.

The nominated championship events will be –

Harewood, Aintree, Goodwood, Prescott and Shelsley.

In the event of a tie, the competitor who achieves the best aggregate difference from his/her class target time at the 3 best score events will be judged to be the winner.

1.8 Championship Regulation Amendments

Any amendments to the regulations for the forthcoming season, will be made on an annual basis at the Drivers Meeting to take place at the end of the current season.

All amendments will be democratically agreed by all individuals present. Only individuals who are currently registered championship competitors will be eligible to vote during this process.

2 SPORTING REGULATIONS – JUDICIAL PROCEDURES IN ACCORDANCE WITH SECTION C (COMPETITORS: BREACH OF REGULATIONS) OF THE Motorsport UK YEAR BOOK AND THESE CHAMPIONSHIP REGULATIONS

It should be noted that the Eligibility Scrutineer is at liberty to examine any vehicle at any time during the Championship as set-out in Section (C 3.1 to 3.5) in the Motorsport UK Year Book. Similarly, any protests would be in accordance with Section (C5.1 to 5.7).

3. TECHNICAL REGULATIONS

- 3.1.** Any four wheeled Morgan car is eligible to compete in the Championship. All vehicles must comply with the Motorsport UK Technical Regulations for Hillclimb and Sprint vehicles as laid down in Section (J) (Common Regulations for Vehicles), Section (S) (Specific Regulations for Sprints, Hill Climbs and Drag Racing) and Section (K) (Safety Criteria) to be found in the Motorsport UK Year Book (Blue Book), 2019.
- 3.2.** The following Technical regulations governing each of the Classes are appropriate to the types of vehicles which have been entered in Morgan Speed Championships in previous years and do not necessarily conform to the maximum permitted modifications allowed by the Motorsport UK, or even the MSCC general systems of classification. However, they have been devised to enable cars to enter Motorsport UK Classes, but at the same time, to limit the extent to which money can buy success in the Standard Classes.
 - 3.2.1.** Competitors are asked to study the following Technical Regulations to ensure that they enter the Class appropriate to their particular vehicle. If a competitor feels that the regulations do not cover their vehicle, they should contact a member of the organising group.

3.2.2. The Championship will be divided into Classes as follows:

- Class 1h Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Morgan Series 1
- Class 1 Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Morgan 4/4 (Carburettor) up to 1701cc.
- Class 2 Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Morgan 4/4 (Fuel Injected) CVH, Zetec up to 1800cc, Sigma.
- Class 3 Modified Specialist Production Cars as per Section S10.10.4
Modified Morgan 4/4 up to 1750cc
- Class 4 Roadgoing Specialist Production Cars as per Section S10.10.2
Standard TR engined + 4 Morgan.
- Class 5a Modified Specialist Production Cars as per Section S10.10.4
Modified TR engined + 4 Morgan,
- Class 5b Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Moss Box +8
- Class 6a Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Morgan +4, 4/4 Duratec up to 1800cc,
CVH/Zetec 4/4 (1801-2000cc).
- Class 6b Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Morgan +4 Duratec up to 2000cc
- Class 7 Modified Specialist Production Cars as per Section S10.10.4
4/4 Sport (Modified), Modified 4/4, & + 4 , (1751-2000cc).
- Class 8a Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Morgan +4 Duratec up to 2000cc
- Class 8b Roadgoing Specialist Production Cars as per Section S10.10.2
Standard 3,500cc Carburetted Plus 8
- Class 8c Modified Specialist Production Cars as per Section S10.10.4
Modified 4/4, & + 4 , (1751-2000cc).
- Class 9a Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Injected Plus 8 up to 4000cc.
- Class 9b Roadgoing Specialist Production Cars as per Section S10.10.2
Standard Roadster 3.0 / 3.7
- Class 9c Modified Specialist Production Cars as per Section S10.10.4
Modified 4/4, & + 4 , (1751-2000cc).
- Class 10a Modified Specialist Production Cars as per Section S10.10.4
Modified Plus 8, Modified Roadster, Aero 8 up to 4,400cc
- Class 10b Roadgoing Specialist Production Cars as per Section S10.10.2
Road-going Standard Plus 8 4.6
- Class 10c Modified Specialist Production Cars as per Section S10.10.4
Modified Roadster 3.0
- Class 10d Modified Specialist Production Cars as per Section S10.10.4
Modified Roadster 3.7.
- Class 10e Modified Specialist Production Cars as per Section S10.10.4
Modified 4/4, & + 4, over 2000cc,
- Class 11a Modified Specialist Production Cars as per Section S10.10.4
Racing Plus 8
- Class 11b Roadgoing Specialist Production Cars as per Section S10.10.2
Aero 8 over 4,400cc.
- Class 12 Modified Specialist Production Cars as per Section S10.10.4
Modsports Morgans.

3.2.3. Class 1h Standard Series 1 4-4

1. Production engine units to be used – 1122cc Coventry Climax for cars built before 1940, 1267cc Standard for cars built
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard camshafts and valves to be used.
4. Standard exhausts to be used.
5. Air cleaners optional.
6. Production inlet manifolds to be retained, but choice of either Solex or Zenith carburettor fitted by the factory as a production item can be used.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained. Rear axle lateral location devices such as Panhard Rods are not permitted.
8. Body construction to be Morgan steel chassis, with timber frame and steel body panels. Floorboards to be of wood of equal thickness to factory standard.
9. Road legal tyres to be fitted to 16” Dia. Wheels, 5”width available ex factory.
10. Gearboxes to be 4 speed with production ratios.
11. Braking Systems to be as fitted by factory.
12. Axle to be as fitted by factory with production ratios to be retained.
13. Standard production ignition systems to be retained.

3.2.4. Class 1 Standard 4/4 (up to 1701cc)

1. Non fuel injected production engine units to be used ie (Ford Pre. Xflow, Kent, CVH or Fiat).
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard camshafts and valves to be used.
4. Choice of exhausts from Standard 4/4 range including Stainless copies.
5. Air cleaners optional.
6. Production inlet manifolds to be retained, but choice of any carburettor fitted by the factory as a production item can be used. A list of such carburettors is available.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays may be fitted to the front crossframe. Rear axle lateral location devices such as Panhard Rods are permitted.
8. Body construction to be Morgan steel chassis, with timber frame and either steel or aluminum body panels. GRP wings of roadgoing weight, ie. (not lighter than aluminum) may be used. Floorboards to be of wood of equal thickness to factory standard.
9. Road legal tyres to be fitted to max. 15inch Dia. Wheels of a width available ex factory.
10. Gearboxes to be 4 or 5 speed with production ratios.
11. Braking Systems to be as fitted by factory.
12. Salisbury or BTR rear axles, with production ratios to be retained.
13. Production ignition systems to be retained, but contact breakers may be replaced by a “pointless” system.

3.2.5. Class 2 Standard 4/4 (up to 1800cc)

1. Fuel injected production engine units to be used ie (Ford CVH, Zetec, Sigma).
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard camshafts and valves to be used.
4. Choice of exhausts from Standard 4/4 range including Stainless copies permitted on CVH and Zetec engines only.
5. Air cleaners optional.
6. Fuel injection and engine management systems to be as fitted by factory. Remapping of ECU or alterations to injection systems not allowed.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays may be fitted to the front crossframe. Rear axle lateral location devices such as Panhard Rods are permitted.
8. Body construction to be Morgan steel chassis, with timber frame and either steel or aluminum body panels. GRP wings of roadgoing weight, ie. (not lighter than aluminum) may be used. Floorboards to be of wood of equal thickness to factory standard.
9. Road legal tyres to be fitted to max. 15inch Dia. Wheels of a width available ex factory. 4/4 Sport - road legal tyres to be fitted to standard 15inch Dia. wheels and tyres of dimensions available ex factory.
10. Gearboxes to be 5 speed with production ratios.
11. Braking Systems to be as fitted by factory.
12. Salisbury or BTR rear axles, with production ratios to be retained.

3.2.6. Class 3 Modified 4/4 (up to 1750cc)

Class 3a Modified 4/4 exc 4/4 Sport

1. The same engine units as for Standard 4/4s are to be used, plus other engine derivatives i.e. (Lotus twin cams, BDA etc), providing the capacity does not exceed 1750cc.
2. Unlimited performance modifications are permitted, in accordance with Motorsport UK regulations. See Appendix for separate rule in respect of forced induction.
3. Total exhaust system optional.
4. Total carburation system optional, but pump fuel must be used.
5. Standard Morgan suspension systems to be used front and rear, but front end geometry optional and at rear, panhard rods and anti tramp bars allowed.
6. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
7. Tyre sizes and wheels optional.
8. Any production gearbox from the standard 4/4 range to be used, with ratios free.
9. Salisbury or BTR rear axles to be used and ratios free.

Class 3b Modified 4/4 Sport

1. Fuel injected production engine units to be used ie (Ford Sigma).
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard camshafts and valves to be used.
4. Exhaust systems free.
5. Air cleaners optional.
6. Inlet Manifolds, fuel injection and engine management systems free.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays may be fitted to the front crossframe. Rear axle lateral location devices such as Panhard Rods are permitted.
8. Body construction to be Morgan steel chassis, with timber frame and aluminum body panels. GRP wings of roadgoing weight, ie. (not lighter than aluminum) may be used. Floorboards to be of wood of equal thickness to factory standard.
9. Road legal tyres to be fitted to standard 15inch Dia. wheels and tyres of dimensions available ex factory.
10. Gearboxes to be 5 speed with production ratios.
11. Braking Systems to be as fitted by factory.
12. Salisbury or BTR rear axles to be used and ratios free.

3.2.7. Class 4 Standard TR Engined Plus 4.

1. Engines from Vanguard to TR4 to form basis of power units, but excluding Supersports specification.
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard camshafts and valves to be used.
4. Choice of exhaust system from standard Plus 4 range, including stainless copies, but excluding Supersports spec.
5. Air cleaners optional.
6. Choice of any carburettor fitted by the factory as a production item can be used but excluding Supersports spec. A list of such carburettors is available.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays to front crossframe and anti tramp bars at rear allowed. Floorboards to be of wood of equal thickness to factory standard.
8. Body construction to be Morgan steel chassis, with timber frame and either steel or aluminum body panels. GRP wings of roadgoing weight, i.e. (not lighter than aluminum), allowed.
9. Road legal tyres to be fitted to 15 or 16 inch Dia. Wheels of a width available ex. Factory.
10. Braking Systems to be as fitted by factory.
11. Rear axles and gearboxes to be standard production units.

3.2.8. Class 5 Modified TR Engined Plus 4 & Standard Moss Box Plus 8

Class 5a Modified TR Engined Plus 4.

1. Engines to be from Vanguard – TR4 range, including Supersports Specification or higher spec.
2. Any performance modification allowed in accordance with Motorsport UK Regulations.
3. Exhaust system optional.
4. Carburation systems optional.
5. Standard Morgan suspension to be retained front and rear, but front end geometry optional and rear end axle may be located using panhard rods, anti-tramp bars etc.
6. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
7. Tyre and wheel sizes optional.
8. Production rear axles and gearboxes to be retained but ratios free.

Class 5b Standard Moss Box 3,500cc Plus 8.

1. The engine must remain in the same state of tune as ex. Factory.
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard camshafts and valves to be used.
4. Production inlet manifolds to be retained, but choice of any carburettor fitted by the factory as a production item can be used. A list of such carburettors is available.
5. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays may be fitted to the front crossframe and rear axle may be located using panhard rods, anti-tramp bars etc.
6. Bodywork must be conventional Morgan steel chassis, timber frame and either steel or alloy body panels. GRP wings, not lighter than aluminium allowed. Floorboards to be of wood of equal thickness to factory standard.
7. Gearbox to be of “Moss” type and specification as fitted ex factory.
8. Braking Systems to be as fitted by factory.
9. Road legal tyres of profile no lower than 70 section to be fitted to standard ex. Factory rims.
10. Any production rear axle from the standard Plus 8 range to be used, with production ratios.

3.2.9. Class 6 Standard + 4, Standard Zetec 4/4. (1801-2000cc), Standard Duratec 4/4 (1800cc), Standard +4 Duratec.

Class 6a Standard + 4, Standard Zetec 4/4. (1801-2000cc), Standard Duratec 4/4 (1800cc),

1. Production engine units to be used – Fiat TC, Rover M16 & T16 engines, Ford CVH, Ford Zetec TC, or earlier engines of appropriate capacity. Ford Duratec engines of a maximum capacity of 1800cc
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard production camshafts and valves to be retained.
4. Choice of exhausts from standard range, including stainless copies on all engine types.
5. Air cleaners optional.
6. Production carburation, ignition and engine management systems to be retained.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays to front crossframe and anti tramp bars at rear allowed. Rear axle lateral location devices such as Panhard Rods are permitted.
8. Body construction to be Morgan steel chassis and timber frame, with either steel or aluminum body panels. GRP wings of roadgoing weight i.e (Not lighter than aluminum) may be used.
9. Road legal tyres to be fitted to 15” dia. wheels of a width available ex. factory. Floorboards to be of wood of equal thickness to factory standard.
10. Salisbury or BTR rear axles, with production ratios to be retained.
11. Braking Systems to be as fitted by factory.
12. Gearboxes to be production units with production ratios.

Class 6b Standard + 4 Duratec

1. Production engine units to be used – Ford Duratec engines of a maximum capacity of 2000cc
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard production camshafts and valves to be retained.
4. Choice of exhausts from standard range, including stainless copies on all engine types.
5. Standard air cleaners to be retained.
6. Production ignition and engine management systems to be retained.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays to front crossframe allowed. Rear axle lateral location devices such as Panhard Rods are permitted. Anti tramp bars at rear are not permitted.
8. Body construction to be Morgan steel chassis and timber frame, with either steel or aluminum body panels. GRP wings of roadgoing weight i.e (Not lighter than aluminum) may be used.
9. Road legal tyres to be fitted to 15” dia. Wheels, maximum 6” width. Maximum tyre width 205mm. Floorboards to be of wood of equal thickness to factory standard.
10. BTR rear axles, with production ratios to be retained.
11. Braking Systems to be as fitted by factory.
12. Gearboxes to be production units with production ratios.
13. Windscreen must be fitted at all times.
14. Spare wheel, all interior trim and hood assembly or ballast of equivalent weight must be carried at all times.

Ballast weights are as follows –

Spare Wheel - 20 Kg, Hood Assembly – 13 Kg, Passenger Seat – 16 Kg.

3.2.10. Class 7 Modified 4/4, 4/4 Sport or Plus 4

Class 7a Modified 4/4 or Plus 4

1. Engines to be of 4 cylinder configuration only, capacity limited to 2000cc.
2. Engine power output to be limited to 185 BHP at the flywheel.

Zetec Engines

3. Unlimited performance modifications allowed in accordance with Motorsport UK regulations within the following conditions -
4. Fuelling by carburation or ex-factory injection/air intake systems.
5. Engine management systems free.
6. Exhaust system free.

Duratec Engines

7. Unlimited performance modifications allowed in accordance with Motorsport UK regulations within the following conditions -
8. Standard ex factory engines only.
9. Fuelling and air intake systems free.
10. Engine management systems free.
11. Exhaust system free.
12. Forced induction systems not allowed.
13. Standard Morgan suspension systems to be retained front and rear but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc.
14. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
15. Tyre and wheel sizes optional.
16. Salisbury or BTR rear axles to be used and ratios free.
17. Gearboxes to be production ex factory units, but ratios free.

Class 7b 4/4 Sport

1. Fuel injected production engine units to be used ie (Ford Sigma).
2. Unlimited performance modifications allowed in accordance with Motorsport UK regulations.
3. See separate rule re-forced induction in Appendix.
4. Exhaust system optional.
5. Ignition and engine management systems free.
6. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays may be fitted to the front crossframe. Rear axle lateral location devices such as Panhard Rods are permitted.
7. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
8. Tyre and wheel sizes optional.
9. BTR rear axles to be used and ratios free.
10. Gearboxes to be production ex factory units, but ratios free.

3.2.11. Class 8 Standard Plus 4 Duratec, Standard 3,500cc Plus 8,

Class 8a Standard + 4 Duratec

1. Production engine units to be used – Ford Duratec up to 2000cc.
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard production camshafts and valves to be retained.
4. Choice of exhausts from standard range, including stainless copies.
5. Air cleaners optional.
6. Production ignition and engine management systems to be retained.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays to front crossframe and anti tramp bars at rear allowed. Rear axle lateral location devices such as Panhard Rods are permitted. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
8. Body construction to be Morgan steel chassis and timber frame, with aluminum body panels. GRP wings of roadgoing weight i.e (Not lighter than aluminum) may be used.
9. Road legal tyres to be fitted to 15” dia. wheels of a width available ex. factory. Floorboards to be of wood of equal thickness to factory standard.
10. BTR rear axles, with production ratios to be retained.
11. Braking Systems to be as fitted by factory.
12. Gearboxes to be production units with production ratios.
13. Passenger seat not required.

Class 8b Plus 8

1. Only the carburettored version of the Rover V8 3,500cc engine to be used.
2. The engine must remain in the same state of tune as ex. Factory.
3. Engines may be balanced whilst retaining original manufacturer fitted components only.
4. Standard production camshafts and valves to be retained.
5. Production inlet manifolds to be retained, but choice of any carburettor fitted by the factory as a production item can be used. A list of such carburettors is available.
6. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays to front crossframe and anti tramp bars at rear allowed. Rear axle lateral location devices such as Panhard Rods are permitted. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
7. Bodywork must be conventional Morgan steel chassis, timber frame and either steel or alloy body panels. GRP wings, not lighter than aluminium allowed. Floorboards to be of wood of equal thickness to factory standard.
8. Braking Systems to be as fitted by factory.
9. Road legal tyres to be fitted to standard ex. Factory rims.
10. Otherwise, as Class 9 Cars.

Class 8c Modified 4/4 or Plus 4

1. Engines to be of 4 cylinder configuration only, Zetec type, capacity limited to 2000cc.
2. Engine power output to be limited to 198 BHP at the flywheel.
3. Unlimited performance modifications allowed in accordance with Motorsport UK regulations within the following conditions -
4. Fuelling systems limited as follows –
Throttle Bodies limited to 45mm diameter.
2 x twin choke carburettors limited to 45mm diameter.
5. Engine management systems free.
6. Exhaust system free.
7. Forced induction systems not allowed.
8. Standard Morgan suspension systems to be retained front and rear but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
9. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
10. Wheels, maximum 6” width. Maximum tyre width 205mm.
11. Salisbury or BTR rear axles to be used and ratios free.
12. Gearboxes to be production ex factory units, but ratios free.

3.2.12. Class 9 Standard Plus 8 (Up to 4000) / Standard Roadster / Roadster Lightweight/Modified 4/4 or +4

Class 9a Plus 8

1. Standard Rover V8, 3.5 or 3.9 litre injected engine, in the same state of tune as fitted by the factory in the standard Plus 8.
2. Engines may be balanced whilst retaining original manufacturer fitted components only.
3. Standard production camshafts and valves to be retained.
4. Choice of exhaust systems from Standard Plus 8 range including stainless copies.
5. Air cleaners optional.
6. Fuel injection and engine management systems to be as fitted by factory. Remapping of ECU or alterations to injection systems not allowed.
7. Standard Morgan suspension systems to be retained front and rear, front and rear end geometry to be retained but adjustable telescopic dampers may be used front and rear. Brake reaction stays may be fitted to the front crossframe and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
8. Body construction to be Morgan steel chassis and timber body frame, with either steel or alloy body panels. GRP wings of roadgoing weight i.e.(not lighter than aluminum) are allowed. Floorboards to be of wood of equal thickness to factory standard.
9. Road legal tyres on Max. 16 inch Dia rims. Wheels of a width available ex factory.
10. Braking Systems to be as fitted by factory.
11. Any production rear axle or gearbox from the standard Plus 8 range to be used, ratios free.

Class 9b Standard Roadster 3.0 inc Roadster Lightweight

1. Engines to be Ford V6 up to 3.0 litre capacity.
2. Engines must remain exactly as fitted ex.factory.
3. Fuel injection and engine management systems to be as fitted by factory.
4. Air cleaners optional.
5. Exhaust systems are free, however catalytic converters must be retained.
6. Standard Morgan suspension to be retained front and rear, front end geometry to be retained. Brake reaction stays may be fitted to the front crossframe and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
7. Body construction to be Morgan steel chassis and timber body frame, with either steel or alloy body panels. GRP wings of roadgoing weight i.e.(not lighter than aluminum) are allowed. Floorboards to be of wood of equal thickness to factory standard.
8. Road legal tyres on Max. 16 inch Dia rims. Wheels of a width available ex factory.
9. Braking Systems to be as fitted by factory.
10. Any production rear axle and gearbox from the standard Roadster range to be used, ratios free.
11. Roadster Lightweight must be of equal kerb weight, excluding roof, but including windscreen and spare wheel, of standard ex factory Roadster.

Class 9c Standard Roadster 3.7

1. Engines to be Ford V6 up to 3.7 litre capacity.
2. Engines must remain exactly as fitted ex.factory.
3. Fuel injection and engine management systems to be manufactured by Ford and as fitted by the factory.
4. Air cleaners optional.
5. Exhaust systems are free, however catalytic converters must be retained.
6. Standard Morgan suspension to be retained front and rear, front end geometry to be retained. Brake reaction stays may be fitted to the front crossframe and rear axle may be located using panhard rods, anti-tramp bars etc.
7. Body construction to be Morgan steel chassis and timber body frame, with either steel or alloy body panels. GRP wings of roadgoing weight i.e.(not lighter than aluminium) are allowed. Floorboards to be of wood of equal thickness to factory standard. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
8. Road legal tyres on Max. 15 inch Dia rims. Wheels of a width available ex factory.
9. Braking Systems to be as fitted by factory, non ventilated disc brakes at the front and drum brakes on the rear.
10. Any production rear axle and gearbox from the standard Roadster range to be used, ratios free.

Class 9d Modified 4/4 or Plus 4

1. Engines to be of 4 cylinder configuration only, capacity limited to 2000cc.
2. Engine power output to be limited to 230 BHP at the flywheel.
Zetec Engines
3. Unlimited performance modifications allowed in accordance with Motorsport UK regulations within the following conditions -
4. Fuelling systems free.
5. Engine management systems free.
6. Exhaust system free.
Duratec Engines
7. Unlimited performance modifications allowed in accordance with Motorsport UK regulations within the following conditions -
8. Fuelling and air intake systems free.
9. Engine management systems free.
10. Exhaust system free.
11. Forced induction systems not allowed.
Standard Morgan suspension systems to be retained front and rear but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
12. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
13. Tyre and wheel sizes optional.
14. Salisbury or BTR rear axles to be used and ratios free.
15. Gearboxes to be production ex factory units, but ratios free.

3.2.12 Class 10 Modified 4/4 or Plus4, Modified Plus 8 (up to 4000cc), Standard 4.6 Plus 8 or Modified Roadster

Class 10a Road Modified Plus 8

1. Engines to be Rover V8 up to 4 litre capacity.
2. Camshafts, valves and cylinder heads are free but solid valve lifters are not allowed.
3. Carburation to be either a single compound carburetor or multiple carburetors. On fuel injected cars, the production Morgan system is to be retained, but rechipping is allowed.
4. Air cleaners optional.
5. Exhaust systems are free, however catalytic converters must be retained where legally required.
6. Standard Morgan suspension to be retained front and rear, but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
7. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
8. Maximum 4 pot calipers at front and 2 pot calipers at rear allowed.
9. Road legal tyres on Max 16 inch dia. rims.
10. Rear axle and gearbox type and ratios optional.

Class 10b Standard 4.6 Plus 8

1. Engines to be Rover V8 up to 4.6 litre capacity.
2. Engines must remain exactly as fitted ex.factory.
3. Fuel injection and engine management systems to be as fitted by factory but rechipping is allowed.
4. Air cleaners optional.
5. Exhaust systems are free, however catalytic converters must be retained.
6. Standard Morgan suspension to be retained front and rear, but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
7. Body construction to be Morgan steel chassis and timber body frame, with either steel or alloy body panels. GRP wings of roadgoing weight i.e. (not lighter than aluminum) are allowed. Floorboards to be of wood of equal thickness to factory standard.
8. Maximum 4 pot calipers at front and 2 pot calipers at rear allowed.
9. Road legal tyres on Max 16 inch dia. rims.
10. Rear axle and gearbox type and ratios optional.

Class 10c Modified Roadster

1. Engines to be Ford V6 up to 3.0 litre capacity.
2. Engines must remain exactly as fitted ex.factory.
3. Fuel injection and engine management systems to be as fitted by factory but rechipping is allowed.
4. Air cleaners optional.
5. Exhaust systems are free, however catalytic converters must be retained.
6. Standard Morgan suspension to be retained front and rear, but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
7. Body construction to be Morgan steel chassis and timber body frame, with alloy body panels. GRP wings of roadgoing weight i.e.(not lighter than aluminum) are allowed. Floorboards to be of wood of equal thickness to factory standard.
8. Front and rear brakes free.
9. Road legal tyres on Max 16 inch dia. rims.
10. Rear axle and gearbox type and ratios free.

Class 10d Modified Roadster 3.7

1. Engines to be Ford V6 up to 3.7 litre capacity.
2. Engines must remain exactly as fitted ex.factory.
3. Fuel injection systems to be as fitted by factory.
4. Engine Management Systems to be either Ford or AR Motorsport ECU.
5. Air cleaners optional.
6. Exhaust systems are free, however catalytic converters must be retained.
7. Standard Morgan suspension to be retained front and rear, but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
8. Body construction to be Morgan steel chassis and timber body frame, with alloy body panels. GRP wings of roadgoing weight i.e. (not lighter than aluminum) are allowed. Floorboards to be of wood of equal thickness to factory standard.
9. Front and rear brakes free.
10. Road legal tyres on Max 16 inch dia. rims.
11. Rear axle and gearbox type and ratios free.

Class 10e Modified 4/4 & Plus 4

1. Engines to be of 4 cylinder configuration only, (max capacity 2350cc).
2. Unlimited performance modifications allowed in accordance with Motorsport UK regulations.
3. See separate rule re-forced induction in Appendix 11.
4. Exhaust system optional.
5. Carburation, ignition and engine management systems optional.
6. Standard Morgan suspension systems to be used front and rear but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
7. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
8. Tyre and wheel sizes limits – 9” x 16” front, 10” x 17” rear.
9. Salisbury or BTR rear axles to be used and ratios free.
10. Gearboxes to be of conventional configuration i.e. H pattern, but ratios free.

Class 10f Standard Aero 8

1. Engines to be BMW M62 up to 4.6 litre capacity.
2. Engines must remain exactly as fitted ex.factory.
3. Fuel injection and engine management systems to be as fitted by factory.
4. Air cleaners optional.
5. Exhaust systems are free, however catalytic converters must be retained.
6. Standard Morgan suspension geometry to be retained front and rear.
7. Body construction to be Morgan aluminium chassis and timber body frame, with alloy body panels. GRP wings of roadgoing weight i.e.(not lighter than aluminum) are allowed.
8. Front and rear brakes to remain as ex factory.
9. Road legal tyres on Max 18 inch dia. rims.
10. Rear axle and gearbox type to remain as ex factory.

3.2.13 Class 11 Racing Plus 8, Standard Aero 8.

Class 11a Racing Plus 8

1. Any Rover V8 engine of any capacity can be used and any level of performance modification is allowed.
2. No castings to be used in the engine unit other than genuine Rover manufactured items.
3. Exhaust systems are free.
4. Air cleaners free, but air intakes not to protrude more than 130mm above the bonnet line.
5. Morgan suspension systems to be retained front and rear but dampers and geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
6. Morgan steel chassis, which may be reinforced, to be used, but body construction optional. The vehicle silhouette to be accurately retained.
7. Wheels and tyres free, including the use of slicks.
8. Transmission and transmission ratios free. Sequential gear selection not allowed.
9. Brakes free, handbrake to operate at both rear wheels, any form of ABS not allowed.

Class 11b Standard Aero 8

1. Engines to be BMW N62 up to 4.8 litre capacity.
2. Engines must remain exactly as fitted ex.factory.
3. Fuel injection and engine management systems to be as fitted by factory.
4. Air cleaners optional.
5. Exhaust systems are free, however catalytic converters must be retained.
6. Standard Morgan suspension geometry to be retained front and rear.
7. Body construction to be Morgan aluminium chassis and timber body frame, with alloy body panels. GRP wings of roadgoing weight i.e.(not lighter than aluminum) are allowed.
8. Front and rear brakes to remain as ex factory.
9. Road legal tyres on Max 18 inch dia. rims.
10. Rear axle and gearbox type to remain as ex factory.

Class 11c Modified 4/4 or Plus 4

1. Engines to be of 4 cylinder configuration only.
2. Unlimited performance modifications allowed in accordance with Motorsport UK regulations within the following conditions -
3. Fuelling systems free.
4. Engine management systems free.
5. Exhaust system free.
6. Forced induction systems permitted.
7. Standard Morgan suspension systems to be retained front and rear but front end geometry free and rear axle may be located using panhard rods, anti-tramp bars etc. Morgan Motor Company 4 link or Suplex 5 link also permitted for rear suspension assembly.
8. Morgan steel chassis to be used, but body construction optional. Vehicle silhouette to be accurately retained.
9. Tyre and wheel sizes optional.
10. Salisbury or BTR rear axles to be used and ratios free.
11. Gearboxes to be of conventional configuration i.e. H pattern, but ratios free.

3.2.14 Class 12 Modsport Morgans, Modified Aero 8

Chassis

Type and dimensions free, but must conform to conventional Morgan shape in plan. The location of the engine, gearbox and final drive relative to each other must be as per road legal Morgan. Location of engine must be such that the rear of the cylinder block does not pass beyond the front line of the Bulkhead / Toe-board, as in a production Morgan.

Suspension

Free.

Engine

To be a derivative of any engine catalogued by Morgan Motor Co. during the production run of any particular Morgan model: - ie

Ford -- Lotus Twin Cam, BDA, Zetec, Duratec, V6 etc.

Triumph -- TR based

Rover -- any V8 derivative

Fiat -- any 4 Cylinder TC – Volumex, Argenta etc.

No limit on engine capacity and tuning to any level permitted.

Bodywork

Construction and materials free, but side elevation and plan to conform to production silhouette above wheel centres as per Motorsport UK Regs. – below wheel centres free.

Brakes

Free.

Wheels and Steering

Free.

Tyres

Free, but must conform to appropriate Motorsport UK Regs.

Aero 8

1. Any Aero 8 model to be run in modified or racing specification set up.

3.2.15 Tyres

Any road legal tyre may be used from tyres listed in the current Motorsport UK Year Book Section (L) (Permitted Tyres).

Slick tyres may be used in Class 12 (Modsports Morgans).

It should be noted that any road legal tyre not shown in List 1A Section (L4) will be regarded as a List 1B tyre for scoring purposes with the following exceptions –

As factory fitted to some 4/4s, TR engined +4s and early Plus 8s, cars may run Avon CR6 ZZ, 70 section tyres under List 1A times, subject to individual application to the organising team.

There will be a penalty of 1.75% applied to the target times for any car running on one or more List 1b tyres. This will be calculated from the time that currently holds the record in each class.

There will be a penalty of 3.5% applied to the target times for any car running on one or more List 1c tyres. This will be calculated from the time that currently holds the record in each class.

As per Section (S)11.6.2, all road going production class cars are eligible to use List 1a and List 1b tyres only.

For clarity, all road going production class cars are as follows –

1h, 1 , 2 , 4 , 5b , 6a , 6b , 8a , 8b , 9a , 9b , 10b , 11b (except for period defined vehicles)

All modified class cars are eligible to use List 1a, List 1b and List 1c tyres.

For clarity, all modified class cars are as follows –

3, 5a, 7, 8c, 9c, 10a, 10c, 10d, 10e, 11a, 12.

Safety Requirements

Competitors should familiarise themselves with the Safety Criteria discussed in Section (K) (Safety) of the Motorsport UK Year Book, particular attention being paid to the following points.

Section (K 1.1 to 1.3) – Rollover Bars

Section (K 2.1) – Seat Belts

Section (K 3.1 to 3.4) - Fire Extinguishers

Section (K 9.1 to 9.3) – Overalls

Section (K 10.1 to 10.4) – Crash Helmets

Section (K 11.1 to 11.3) – Goggles / Visors

Section (K 2.3) – Head Restraints

Section (S 9.2.1) - Gloves

APPENDIX TO TECHNICAL REGULATIONS

1. As a general rule, any past or present factory fitted component available during the series production run of a car eligible for a specific Standard Car class, can be used without affecting the “Standard” status of the car. Specific components fitted to limited production run cars are not eligible for standard class cars. If anyone has any doubts about a particular aspect of this, please contact a member of the organising team: see para 14 below.
2. **Standard Class Cars**
All cars competing in standard classes i.e. Class 1h, 1, 2, 4, 6, 8, 9, 10 and 11 - any modifications to the suspension or braking systems beyond the specification stated in the particular class will result in a penalty of 1% per type of modification, being applied to the specific target time at each event
3. **Standard Class Cars**
All cars competing in standard classes, i.e. Class 1h, 1, 2, 4, 6, 8, 9, 10 and 11 must retain all interior door trims and passenger seat(s) as fitted, ex factory unless as stated in the specific regulations.
4. **Standard Class Cars**
All cars competing in standard classes, i.e. Class 1h, 1, 2, 4, 6, 8, 9, 10 and 11 must retain all bodywork profiles strictly as fitted, ex factory.
5. **Braking Systems**
For clarity, on all standard class cars, the following enhancements are permissible in standard specification braking systems –
Alternative friction material – ie EBC Green Pads
Replacement front discs of equal dimension and construction.

Any change to the dimensions of the contact patch, additional cooling systems, etc. are considered to be modifications and penalties will be applied as per appendix 2.
6. **Electronic Driver Aids**
Electronic driver aids such as ABS, Traction control, Launch control are only permissible in classes 10, 11 and 12.
7. **Front Suspension Geometry**
For clarity, on all standard class cars, the fitting of negative camber plates is permissible but the suspension geometry must remain within the manufacturer’s tolerances.
8. **Wheel and Tyre Dimensions**
Wheel rim width and diameter dimensions will be as described in the relevant paragraphs above. The wheel rim and/or tyre must not protrude beyond the edge of the bodywork when the car is moving forwards in a straight line. Motorsport UK Yearbook Section (J 5.2.6) refers.
9. **Catalytic Converters** where legally required, are to be retained at all times.
10. The Technical Committee reserve the right to re-classify any car that does not conform to the current class structure.
11. For forced induction cars, 40% should be added to the cars declared unforced capacity.

12. Where event conditions permit, (usually where there is a Morgan only Class), windscreens may be removed and aero screens used instead, except Class 6 Duratec +4's and Aero 8's where windscreens must remain fitted.
13. The use of a "one piece" front end, e.g. cowl, bonnet, front wings etc. combined to form a single piece of bodywork is not allowed, except for cars in Class 12, (ModSports).
14. Entrants in Class 12, (ModSports), are reminded that they are not eligible for any annual awards for fastest time during the season at named venues including Prescott, Shelsley Walsh and Harewood, but may be eligible for awards for Technical Originality or Ingenuity.
15. Championship Committee

Julie Baines	Tel 0161 427 7150
Simon Baines	Tel 0161 427 7150
Clive Glass	Tel 01704 889003
Chris Bailey	Tel 01924 201086
16. Table of target times
17. Table of Twisty Sprint Class Performance Comparisons
18. Table of Twisty Sprint Class Time Estimate Calculations
19. Table of Fast Sprint Class Performance Comparisons
20. Table of Fast Sprint Class Time Estimate Calculations
21. In the event that the course design at an existing venue is amended from the previous year, one or more of the following conditions must be satisfied for the course to be declared as a new venue such that existing target times cannot be re-used –
 - a) The overall course length has changed by more than 1%.
 - b) Obstacles have been added, moved or removed that result in more or fewer gearchanges to be carried out over and above the previous design.
22. Technical Committee

Andrew Thompson
Chris Bailey
Simon Baines
Simon Ashby

Appendix 16 - MSCC TECHNIQUES SPEED CHAMPIONSHIP - TARGET TIMES - 2019

04/11/2018

Issue 1

		Series 1	Std 4/4 c	Std 4/4 inj	Mod 4/4	Std TR	Mod TR	Std +4	Mod 4/4	Std +8 Car	Std +8 Inj	Mod +8	Rac +8	Mod Spts	
Venue	Tyre Type	Class 1h	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	
1	Aintree	List 1A	68.21	60.72	58.87	55.27	64.97	54.08	56.82	55.65	53.40	52.86	50.16	49.16	48.18
		List 1B	N/A	59.66	57.84	54.32	63.83	53.13	55.83	54.68	52.48	51.95	49.30	48.30	47.33
		List 1C	N/A	N/A	N/A	53.37	N/A	53.15	N/A	53.70	51.56	51.04	48.44	47.44	46.49
		Record Holder	Proudfoot	Smith	Stephens	Hall	E	C Martin	Bailey	Bryan	Toon	Clarke	Baines	E	E
2	Blyton Park	List 1A	94.43	85.07	82.59	77.30	91.02	77.30	80.16	79.42	79.02	77.04	71.92	70.48	69.07
		List 1B	N/A	83.58	81.14	75.95	89.43	75.95	78.76	78.03	77.64	75.69	70.68	69.25	67.86
		List 1C	N/A	N/A	79.70	74.59	N/A	74.59	N/A	76.64	76.26	74.34	69.44	68.01	66.65
		Record Holder	E	E	Stephens	Ashby	E	E	Bailey	Bryan	E	E	Baines	E	E
3	Blyton Park	List 1A	189.87	171.05	166.07	161.92	183.03	161.92	164.63	159.49	158.69	151.77	147.42	144.47	141.58
		List 1B	N/A	168.06	163.16	159.08	179.82	159.08	161.75	156.70	155.91	149.16	144.88	141.94	139.10
		List 1C	N/A	N/A	N/A	156.25	N/A	156.25	N/A	153.91	153.14	146.55	142.34	139.41	136.62
		Record Holder	E	E	Stephens	E	E	E	Bailey	E	E	Glass	Baines	E	E
4	Blyton Park	List 1A	108.29	97.56	94.72	92.35	104.39	92.35	93.30	85.26	84.83	81.48	80.26	78.65	77.08
		List 1B	N/A	95.85	93.06	90.74	102.56	90.74	91.67	83.77	83.35	80.08	78.85	77.28	75.73
		List 1C	N/A	N/A	91.40	89.12	N/A	89.12	N/A	82.28	81.86	78.68	77.45	75.90	74.38
		Record Holder	E	E	Hargrave	E	E	E	E	Bryan	E	Clarke	E	E	E
5	Croft	List 1A	116.68	105.12	103.06	102.08	112.48	98.29	99.55	100.55	98.56	95.69	92.12	90.28	88.48
		List 1B	N/A	103.28	101.26	100.30	110.51	96.57	97.81	98.79	96.83	94.01	90.54	88.70	86.93
		List 1C	N/A	N/A	N/A	98.63	N/A	94.85	N/A	97.03	95.11	92.45	88.96	87.12	85.38
		Record Holder	E	E	Stephens	Wheat	E	Gibson	Bailey	E	E	McDonald	Baines	E	E
6	Curborough	List 1A	81.42	72.24	70.14	66.80	77.30	66.80	69.46	65.80	67.84	66.08	64.79	63.50	62.23
		List 1B	N/A	70.98	68.91	65.63	75.95	65.63	68.24	64.65	66.67	64.94	63.68	62.39	61.14
		List 1C	N/A	N/A	N/A	64.46	N/A	64.46	N/A	63.50	65.50	63.80	62.57	61.28	60.05
		Record Holder	Proudfoot	E	E	Ashby	E	E	Bailey	E	Toon	Glass	Baines	E	E
7	Curborough 2L	List 1A	79.81	71.37	69.42	65.52	76.43	67.79	67.94	66.87	66.81	64.58	62.62	61.37	60.27
		List 1B	N/A	70.12	68.21	64.37	75.09	66.61	66.75	65.70	65.66	63.47	61.52	60.29	59.21
		List 1C	N/A	N/A	N/A	63.23	N/A	65.50	N/A	64.53	64.51	62.36	60.50	59.22	58.23
		Record Holder	Proudfoot	Kellett	Stephens	Ashby	Weldon	C. Martin	Bailey	DixonSmith	Toon	Glass	Ingram	E	Sidgwick
8	Debden	List 1A	111.17	100.16	97.24	94.32	108.17	94.32	95.78	92.91	89.79	85.09	83.82	82.14	80.50
		List 1B	N/A	98.40	95.54	92.67	106.28	92.67	94.11	91.28	88.25	83.63	82.35	80.70	79.09
		List 1C	N/A	N/A	N/A	91.02	N/A	91.02	N/A	89.66	86.71	82.17	80.88	79.27	77.68
		Record Holder	E	E	Hargrave	E	E	E	E	E	Toon	Clarke	E	E	E
9	Goodwood 1L	List 1A	128.36	111.79	108.53	104.18	123.78	104.18	106.90	103.18	102.66	98.84	95.64	93.73	91.86
		List 1B	N/A	109.83	106.63	102.42	121.61	102.42	105.03	101.37	100.87	97.11	94.03	92.09	90.25
		List 1C	N/A	N/A	N/A	100.66	N/A	100.66	N/A	99.57	99.07	95.38	92.41	90.45	88.64
		Record Holder	Proudfoot	E	Stephens	Hall	Weldon	E	E	Anne Miller	E	Andy Miller	Baines	E	E
10	Gurston Down	List 1A	51.39	43.75	43.22	40.62	46.82	42.04	42.23	39.83	38.24	37.13	36.57	35.84	35.12
		List 1B	N/A	42.98	42.46	39.91	46.00	41.31	41.49	39.13	37.57	36.48	35.93	35.21	34.51
		List 1C	N/A	N/A	N/A	39.20	N/A	40.62	N/A	38.48	36.90	36.49	35.29	34.59	33.89
		Record Holder	Proudfoot	Phillips	Stephens	Ashby	Sykes	L.Hobden	R. Turner	Young	E	Ayres	E	E	E
11	Shelsley Walsh	List 1A	48.00	41.25	40.43	36.93	44.17	40.49	38.65	37.28	37.23	35.74	33.81	33.13	32.40
		List 1B	N/A	40.53	39.72	36.28	43.40	39.78	37.97	36.63	35.97	35.11	33.22	32.55	31.83
		List 1C	N/A	N/A	N/A	35.64	N/A	39.12	N/A	35.98	35.34	34.53	32.63	31.97	31.30
		Record Holder	Proudfoot	Mason	E	Ashby	Sykes	Lee	Bailey	DixonSmith	Toon	Ayres	Sidgwick	E	Sidgwick
12	Harewood	List 1A	86.17	73.75	71.92	70.26	77.27	69.50	71.04	69.21	69.81	67.98	66.52	65.26	63.70
		List 1B	N/A	72.46	70.66	69.03	75.92	68.28	69.80	67.99	68.61	66.79	65.36	64.11	62.59
		List 1C	N/A	N/A	N/A	67.80	N/A	67.15	N/A	66.78	67.41	65.68	64.27	63.05	61.55
		Record Holder	Proudfoot	Kellett	Stephens	Ashby	Sykes	C. Martin	Frow	E	Toon	McDonald	Ingram	Sidgwick	Sidgwick
13	Loton Park	List 1A	77.87	69.68	67.84	62.05	73.91	64.70	65.59	64.26	63.65	62.10	60.89	57.77	56.95
		List 1B	N/A	68.46	66.65	60.96	72.62	63.57	64.44	63.14	62.56	61.03	59.84	56.76	55.95
		List 1C	N/A	N/A	N/A	59.88	N/A	62.44	N/A	62.01	61.47	59.96	58.79	55.82	55.02
		Record Holder	Proudfoot	Kellett	Stephens	Ashby	Sykes	Lee	Bailey	DixonSmith	Toon	Glass	Baines	Jones	Sidgwick
14	Snetterton	List 1A	131.65	119.32	115.84	110.70	128.86	110.70	114.10	129.10	109.32	106.14	104.54	102.45	100.40
		List 1B	N/A	117.23	113.81	108.76	126.61	108.76	112.11	126.84	107.41	104.31	102.71	100.66	98.65
		List 1C	N/A	N/A	N/A	106.83	N/A	106.83	N/A	124.58	105.49	102.48	100.88	98.87	96.89
		Record Holder	Proudfoot	E	Stephens	Ashby	E	E	E	Bryan	E	Toon	E	E	E
15	Ty Croes	List 1A	161.99	143.55	139.37	133.07	153.60	133.07	136.82	131.07	132.80	129.48	125.09	122.59	120.14
		List 1B	N/A	141.04	136.93	130.74	150.91	130.74	134.43	128.78	130.52	127.21	122.94	120.44	118.04
		List 1C	N/A	N/A	N/A	128.41	N/A	128.41	N/A	126.49	128.24	125.10	120.79	118.30	115.93
		Record Holder	Proudfoot	E	Smith	Ashby	E	E	Eatock	E	Toon	Baines	Baines	E	E
16	Ty Croes	List 1A	128.20	114.69	111.35	106.05	122.72	106.05	109.68	104.46	104.99	103.55	100.51	98.50	96.53
		List 1B	N/A	112.69	109.40	104.19	120.57	104.19	107.76	102.63	103.18	101.77	98.78	96.77	94.84
		List 1C	N/A	N/A	N/A	102.34	N/A	102.34	N/A	100.80	101.37	99.99	97.05	95.05	93.15
		Record Holder	Proudfoot	E	E	Ashby	E	E	E	E	Toon	Toon	Baines	E	E
17	3 Sisters	List 1A	113.79	99.82	88.22	85.57	107.81	83.45	87.26	86.47	87.30	84.76	83.49	81.82	80.18
		List 1B	N/A	98.07	86.68	84.08	105.92	82.01	85.73	84.96	85.78	83.28	82.03	80.39	78.78
		List 1C	N/A	N/A	N/A	82.58	N/A	80.52	N/A	83.44	84.25	81.79	80.57	78.96	77.38
		Record Holder	E	Carden	Stephens	E	E	C. Martin	Bailey	Moore	E	Lomas	E	E	E
18	Prescott	List 1A	65.11	56.66	54.97	51.62	59.61	54.28	54.15	52.37	51.83	50.60	49.84	48.85	45.10
		List 1B	N/A	55.67	54.01	50.72	58.57	53.33	53.20	51.45	50.94	49.72	48.97	47.99	44.31
		List 1C	N/A	N/A	N/A	49.81	N/A	52.38	N/A	50.54	50.05	48.89	48.10	47.14	45.10
		Record Holder	Proudfoot	Phillips	Stephens	Ashby	Sykes	Lee	E	DixonSmith	Toon	Ayres	E	E	Sidgwick
20	Wiscombe Park	List 1A	59.20	51.93	50.89	49.39	56.02	56.34	51.24	48.65	49.15	46.74	46.04	45.12	44.22
		List 1B	N/A	51.02	50.00	48.53	55.04	55.35	50.34	47.80	48.29	45.92	45.23	44.33	43.44
		List 1C	N/A	N/A	N/A	47.66	N/A	54.37	N/A	46.95	47.49	45.16	44.43	43.54	42.67
		Record Holder	E	Cox	E	Ashby	Weldon	Hobden	Bryan	E	Foster	Ayres	E	E	E

List 1b Penalty

1.75%

List 1c Penalty

3.50%

Appendix 17 - MSCC TECHNIQUES SPEED CHAMPIONSHIP - TWISTY SPRINT CLASS PERFORMANCE COMPARISONS - 2019

Use the class time estimating system if one the following results occur -

1/ A higher performance class time is less than a corresponding lower class time as listed below -

Class 2 time < Class 1 time
 Class 3 time < Class 2 time
 Class 5 time < Class 3 time
 Class 6 time < Class 2 time
 Class 7 time < Class 5 time

Class 7 time < Class 3 time
 Class 7 time < Class 6 time
 Class 8 time < Class 3 time
 Class 8 time < Class 7 time
 Class 9 time < Class 8 time

Class 9 time < Class 7 time
 Class 10 time < Class 9 time
 Class 11 time < Class 10 time
 Class 12 time < Class 11 time

2/ A class time fails to achieve the required performance level when compared to another class time, as listed below -

Examples

A class 3 time is less than 2.5% quicker than a class 1 time
 A class 7 time is less than 1.25% quicker than a class 2 time

		Reference Time													
		Class 1h	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	
Comparison Time	Class 1h	N/A	See Note 1	+11%	+13.5%	1.0%	+13.5%	+18%	+23.5%	+31.5%	+39.5%	+52%	65.5%	69.0%	
	Class 1	See Note 1	N/A	See Note 1	+2.5%	-10%	+2.5%	+1.5%	+3.25%	+5%	+6%	+7.5%	+9.5%	+11.5%	
	Class 2	-11%	See Note 1	N/A	See Note 1	-14.5%	+0.5%	See Note 1	+1.25%	+3%	+4%	+5.5%	+7.5%	+9.5%	
	Class 3	-13.5%	-2.5%	See Note 1	N/A	-12.5%	+2%	-3%	See Note 1	See Note 1	+0.5%	+2%	+4%	+6%	
	Class 4	-1%	+10%	+14.5%	+12.5%	N/A	+12.5%	+12%	+13.25%	+15%	+16%	+17.5%	+19.5%	+21.5%	
	Class 5	-13.5%	-2.5%	-0.5%	-2%	-12.5%	N/A	-3%	See Note 1	-0.5%	+0.5%	+2%	+4%	+6%	
	Class 6	-18%	-1.5%	See Note 1	+3%	-12%	+3%	N/A	See Note 1	+0.5%	+1.5%	+3%	+5%	+7%	
	Class 7	-23.5%	-3.25%	-1.25%	See Note 1	-13.25%	See Note 1	See Note 1	N/A	See Note 1	See Note 1	+0.5%	+1.5%	+3.5%	
	Class 8	-31.5%	-5%	-3%	See Note 1	-15%	+0.5%	-0.5%	See Note 1	N/A	See Note 1	+1.5%	+3.5%	+5.5%	
	Class 9	-39.5%	-6%	-4%	-0.5%	-16%	-0.5%	-1.5%	See Note 1	See Note 1	N/A	See Note 1	+1.5%	+3.5%	
	Class 10	-52%	-7.5%	-5.5%	-2%	-17.5%	-2%	-3%	+0.5%	-1.5%	See Note 1	N/A	See Note 1	+2.5%	
	Class 11	-65.5%	-9.5%	-7.5%	-4%	-19.5%	-4%	-5%	-1.5%	-3.5%	-1.5%	See Note 1	N/A	See Note 1	
Class 12	-69%	-11.5%	-9.5%	-6%	-21.5%	-6%	-7%	-3.5%	-5.5%	-3.5%	-2.5%	See Note 1	N/A		

Appendix 18 - MSCC TECHNIQUES SPEED CHAMPIONSHIP - TWISTY SPRINT CLASS TIME ESTIMATING SYSTEM - 2019

		Reference Time												
		Class 1h	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12
Estimate Time	Class 1h	=	+11%	+13%	+15.5%	3.0%	+15.5%	+20%	+25.5%	+33.5%	+41.5%	+54%	67.5%	77.0%
	Class 1	-11%	=	+2%	+4.5%	-8%	+4.5%	+3.5%	+5.25%	+7%	+8%	+9.5%	+11.5%	+13.5%
	Class 2	-13%	-2%	=	+5%	-12.5%	+2.5%	+1.5%	+3.25%	+5%	+6%	+7.5%	+9.5%	+11.5%
	Class 3	-15.5%	-4.5%	-5%	=	-14.5%	=	-1%	+0.75%	+1.5%	+2.5%	+4%	+6%	+8%
	Class 4	-3%	+8%	+12.5%	+14.5%	=	+14.5%	+14%	+15.25%	+17%	+18%	+19.5%	+21.5%	+23.5%
	Class 5	-15.5%	-4.5%	-2.5%	=	-14.5%	=	-1%	+0.75%	+1.5%	+2.5%	+4%	+6%	+8%
	Class 6	-20%	-3.5%	-1.5%	+1%	-14%	+1%	=	+1.75%	+2.5%	+3.5%	+5%	+7%	+9%
	Class 7	-25.5%	-5.25%	-3.25%	-0.75%	-15.25%	-0.75%	-1.75%	=	=	=	+1.5%	+3.5%	+5.5%
	Class 8	-33.5%	-7%	-5%	-1.5%	-17%	-1.5%	-2.5%	=	=	+2%	+3.5%	+5.5%	+7.5%
	Class 9	-41.5%	-8%	-6%	-2.5%	-18%	-2.5%	-3.5%	=	-2%	=	+1.5%	+3.5%	+5.5%
	Class 10	-54%	-9.5%	-7.5%	-4%	-19.5%	-4%	-5%	-1.5%	-3.5%	-1.5%	=	+2.5%	+4.5%
	Class 11	-67.5%	-11.5%	-9.5%	-6%	-21.5%	-6%	-7%	-3.5%	-5.5%	-3.5%	-2.5%	=	+2.5%
Class 12	-77%	-13.5%	-11.5%	-8%	-23.5%	-8%	-9%	-5.5%	-7.5%	-5.5%	-4.5%	-2.5%	=	

The reference time is the time that is being nominated as the representative performance level that other class times are being compared to.

The estimate time is the calculated percentage adjustment used for classes with a non-representative time.

E.g. to calculate a class 1 time from a measured class 2 time, add 2% for the equivalent tyre. Then adjust the estimated time if required for the alternative tyre compound.

Please Note

To ensure accuracy with all estimated times, always use a reference time that has the minimum percentage adjustment to the class being estimated.

Appendix 19 - MSCC TECHNIQUES SPEED CHAMPIONSHIP - FAST SPRINT CLASS PERFORMANCE COMPARISONS - 2019

Use the class time estimating system if one the following results occur -

1/ A higher performance class time is less than a corresponding lower class time as listed below -

Class 1 time < Class 1h time
 Class 2 time < Class 1 time
 Class 3 time < Class 2 time
 Class 5 time < Class 3 time
 Class 6 time < Class 2 time

Class 7 time < Class 5 time
 Class 7 time < Class 3 time
 Class 7 time < Class 6 time
 Class 8 time < Class 3 time
 Class 9 time < Class 8 time

Class 9 time < Class 7 time
 Class 10 time < Class 9 time
 Class 11 time < Class 10 time
 Class 12 time < Class 11 time

2/ A class time fails to achieve the required performance level when compared to another class time, as listed below -

Examples

A class 3 time is less than 2.5% quicker than a class 1 time
 A class 7 time is less than 2.25% quicker than a class 2 time

		Reference Time													
		Class 1h	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	
Comparison Time	Class 1h	N/A	See Note 1	+11%	+13.5%	1.0%	+13.5%	+18%	+24.5%	+31.5%	+42.5%	+55%	68.5%	72.0%	
	Class 1	See Note 1	N/A	See Note 1	+2.5%	-10%	+2.5%	+1.5%	+4.25%	+5%	+9%	+10.5%	+12.5%	+14.5%	
	Class 2	-11%	See Note 1	N/A	See Note 1	-14.5%	-0.5%	See Note 1	+2.25%	+3%	+7%	+8.5%	+10.5%	+12.5%	
	Class 3	-13.5%	-2.5%	See Note 1	N/A	-15.5%	+2%	-3%	See Note 1	See Note 1	+3.5%	+5%	+7%	+9%	
	Class 4	-1%	+10%	+14.5%	+15.5%	N/A	+12.5%	+12%	+14.25%	+15%	+19%	+20.5%	+22.5%	+24.5%	
	Class 5	-13.5%	-2.5%	-0.5%	N/A	-12.5%	N/A	-3%	See Note 1	-0.5%	+3.5%	+5%	+7%	+9%	
	Class 6	-18%	-1.5%	See Note 1	+3%	-12%	+3%	N/A	See Note 1	+0.5%	+4.5%	+6%	+8%	+10%	
	Class 7	-24.5%	-4.25%	-2.25%	See Note 1	-14.25%	See Note 1	See Note 1	N/A	+2%	See Note 1	+1%	+3%	+5%	
	Class 8	-31.5%	-5%	-3%	See Note 1	-15%	+0.5%	-0.5%	-2%	N/A	See Note 1	+3.5%	+5.5%	+7.5%	
	Class 9	-42.5%	-9%	-7%	-3.5%	-19%	-3.5%	-4.5%	See Note 1	See Note 1	N/A	See Note 1	+1.5%	+3.5%	
	Class 10	-55%	-10.5%	-8.5%	-5%	-20.5%	-5%	-6%	-1%	-3.5%	See Note 1	N/A	See Note 1	+2.5%	
	Class 11	-68.5%	-12.5%	-10.5%	-7%	-22.5%	-7%	-8%	-3%	-5.5%	-1.5%	See Note 1	N/A	See Note 1	
Class 12	-72%	-14.5%	-12.5%	-9%	-24.5%	-9%	-10%	-5%	-7.5%	-3.5%	-2.5%	See Note 1	N/A		

Appendix 20 - MSCC TECHNIQUES SPEED CHAMPIONSHIP - FAST SPRINT CLASS TIME ESTIMATING SYSTEM - 2019

		Reference Time												
		Class 1h	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12
Estimate Time	Class 1h	=	+11%	+13%	+15.5%	3.0%	+15.5%	+20%	+26.5%	+33.5%	+44.5%	+57%	70.5%	74.0%
	Class 1	-11%	=	+2%	+4.5%	-8%	+4.5%	+3.5%	+6.25%	+7%	+11%	+12.5%	+14.5%	+16.5%
	Class 2	-13%	-2%	=	+5%	-12.5%	+2.5%	+1.5%	+4.25%	+5%	+9%	+10.5%	+12.5%	+14.5%
	Class 3	-15.5%	-4.5%	-5%	=	-14.5%	=	-1%	+1.5%	+1.5%	+5.5%	+7%	+9%	+11%
	Class 4	-3%	+8%	+12.5%	+14.5%	=	+14.5%	+14%	+16.25%	+17%	+21%	+22.5%	+24.5%	+26.5%
	Class 5	-15.5%	-4.5%	-2.5%	=	-14.5%	=	-1%	+1.75%	+1.5%	+5.5%	+7%	+9%	+11%
	Class 6	-20%	-3.5%	-1.5%	+1%	-14%	+1%	=	+2.75%	+2.5%	+6.5%	+8%	+10%	+12%
	Class 7	-26.5%	-6.25%	-4.25%	-1.5%	-16.25%	-1.75%	-2.75%	=	=	+1.5%	+3%	+5%	+7%
	Class 8	-33.5%	-7%	-5%	-1.5%	-17%	-1.5%	-2.5%	=	=	+4%	+5.5%	+7.5%	+9.5%
	Class 9	-44.5%	-11%	-9%	-5.5%	-21%	-5.5%	-6.5%	-1.5%	-4%	=	+1.5%	+3.5%	+5.5%
	Class 10	-57%	-12.5%	-10.5%	-7%	-22.5%	-7%	-8%	-3%	-5.5%	-1.5%	=	+2.5%	+4.5%
	Class 11	-70.5%	-14.5%	-12.5%	-9%	-24.5%	-9%	-10%	-5%	-7.5%	-3.5%	-2.5%	=	+2.5%
Class 12	-74%	-16.5%	-14.5%	-11%	-26.5%	-11%	-12%	-7%	-9.5%	-5.5%	-4.5%	-2.5%	=	

The reference time is the time that is being nominated as the representative performance level that other class times are being compared to.

The estimate time is the calculated percentage adjustment used for classes with a non-representative time.

E.g. to calculate a class 1 time from a measured class 2 time, add 2% for the equivalent tyre. Then adjust the estimated time if required for the alternative tyre compound.

Please Note

To ensure accuracy with all estimated times, always use a reference time that has the minimum percentage adjustment to the class being estimated.