

CARCOON

For well over a decade now we have been advocating the benefits of cocooning the infrequently used vehicle within its own clean dry mini environment.

Now delighted customers are only too keen to tell us how well their particular vehicle has benefited by being cocooned, be it for just a relatively short time whilst working away or typically over the wet Winter months.

We often hear comments like, "I don't know how it does it, but I know it works" or "can't imagine how we ever managed before we bought our Carcoon".

One of my personal favourites is from Capt J. W. Herbert Ex 2 Para: "Congratulations for your gift to the restorer indeed all owners of cars and bikes of all years".

To understand how Carcoon achieves this high level of protection through an apparently simple function and certainly minute running costs, we need to study the often misunderstood patented Carcoon concept.

Let's start with the common misconception that airflow is so beneficial to the stored vehicle that the more airflow we have the better it must be, of course this is absolutely not the case. Presuming your car or bike was dry to start with, why would you want to flow large amounts of moisture laden air into the storage environment or across the vehicle?

Of course you don't need a degree in modern science to know this is the last thing you would want to do. The patented Carcoon concept provides a brilliantly simple solution to a real problem, particularly in this modern industrial environment in which we now live.

If you have any doubts about the effects of this environment take a look at the damage caused to some of our historic buildings, almost entirely due to acid deposition.

Many of these buildings have survived for hundreds of years with little degradation, only to suffer rapid degradation over recent years. It's now widely accepted by scientists around the world that acid deposition, be it in the form of rain (wet deposition) or in the form of every day dirt and dust (dry deposition) can cause serious damage to almost everything exposed to moisture or untreated air.

Within the storage mode Carcoon provides a mini isolating environment, where the super atmospheric pressure within the cocoon is continually pushed through activated carbon filters. These carbon filters are actually working above atmospheric pressure as it purges and circulates the air within the storage environment.

Importantly this circulating flow within the mini environment is independent of the ever changing temperatures and humidity of the ambient conditions, this cocoon effect maintains internal temperatures, filters the internal airflow plus having the uniquely desirable effect of lowering the dew point, without the need to run expensive dehumidifiers.

Battery management for the cocooned vehicle is also part of the system, this award winning battery management will more than double the life of the average battery.

Fully automatic battery backup in the event of any temporary mains power failure is also an integral part of the system, ensuring uninterrupted all round protection for the minimal running costs of around two pence per day.

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Specific Regulations for Autotests

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Organiser's Regulations

1. Introduction

1.1. A permit for the organisation of an Autotest, AutoSOLO or a Production Car Autotest is issued at the sole discretion of the MSA.

1.2. A club can only organise Autotests and AutoSOLOS up to and including Clubmans status, unless the upgrading criteria have been complied with.

1.3. A club can only organise Production Car Autotests on a Clubsport or Clubman status permit.

2. Upgrading of Events

2.1. Upgrading to National 'B' Status. For an Autotest or AutoSOLO to be considered for upgrading to National 'B' status it must be observed in the same format as a Clubmans event with a minimum entry of 15 starters.

Note: Throughout these sections an asterisk (*) indicates a requirement for additional information to be printed in the Supplementary Regulations (SRs).

Text shown in italics indicates a Regulation which may be amended in the SRs.

3. Duties and Responsibilities of the Clerk of the Course

3.1. The Clerk of the Course will ensure that:

3.1.1. All safety requirements for speed events appropriate to the surface of the tests (Autocross/Sprint) shall apply to any test which is timed and run on a course of more than 200m in length and/or open to racing or sports/racing cars.

3.1.2. At all timed tests on a course less than 200m in length, all spectators, and non-essential Marshals to the test, who are not protected by a solid physical barrier capable of stopping a car, should be kept by means of roping or fencing at least 10m from the edge of the course in each direction and at least 20m from the finish line. All braking and changes of direction must be foreseen within the edge of the course and must not impede upon the distances as defined for safety.

3.1.3. The 200m stipulation as to length of course applies to the length and/or width of the area on which the test is conducted and not the actual distance covered by the car in any one direction when performing the test.

3.1.4. Each test has at least one person responsible for:

- (a) The general running of the test.
- (b) Observing and recording penalties.
- (c) Recording the times taken.
- (d) Completing the score card with the addition of penalties.

3.1.5. Judges of Fact are appointed to each test to adjudicate on excessive sound.

3.1.6. Warning notices as required by B 18.1 must be displayed.

3.1.7. There must be fire extinguisher(s) of at least 5kg in units of not less than 2kg capacity available for all test sites.

3.1.8. The organisers must provide a First Aid Kit.

4. Test Layouts (All Autotests & AutoSOLOs)

4.1.1. Tests must be laid out so that competing cars are never permitted to travel more than 100m (between manoeuvres) without having to stop astride a penalty line and reverse or drive clear of the line, manoeuvre in a garage or box.

4.1.2. Competitors must either stop astride a penalty line or make a change of direction of at least 90° at most 25m before the Finish line.

4.1.3. The route to be followed by the competitors in a test shall be made available to each driver beforehand, and there shall be no optional direction of travel except as specified in 5.1.5.

4.1.4. Clarification of any ambiguity in relation to where and how a change of direction or a spin turn may be made without incurring penalty must be available to all competitors, on request, before the start of any test or tests.

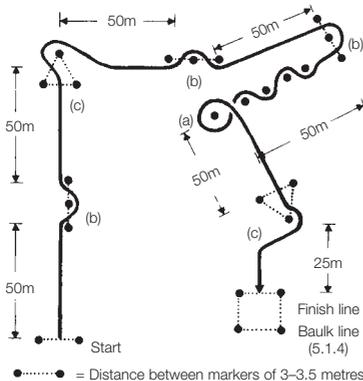
4.1.5. Practising of tests will not be permitted.



Test Layouts (All Forwards Autotests)

4.2.1. In any test in which the direction of travel is all forward and where there are no penalty lines (other than the Start and Stop lines) nor any reversing in the test, competitors must be required to make a change in direction at most 50m after the previous specified change in direction by:

- (a) executing a turn of more than 180° around a single marker, or
 - (b) changing direction through a three marker line either in 'slalom' or a turn of between 90° and 180°, or
 - (c) changing directions through a three marker triangle whose base is at right angles to the previous line of travel such that competitors are required to turn through 90° from the line of entry.
 - (d) whichever of the above requirements are used to change direction, they will not preclude the inclusion in the test of less severe 'slalom' manoeuvres which produce turns of less than 90° being incorporated between these mandatory directional changes every 50m.
- See diagram above.
- (e) All lines or pairs of adjacent markers forming part of any all forward test must be a minimum of 3m and a maximum of 4m long or apart.
- 4.2.2.** See 4.2.1. above.



Example of test showing all 4.2.1. elements in use (only applicable where direction of travel is all forwards).

Test Layouts (Autotests)

4.3.1. Any garage used in a test must have a minimum length of 5m and a minimum width of 3m. When competitors are required to perform a 180° turn in a box, the size of the box should be sufficient to contain a circle of 14m diameter.

4.3.2. Posts or pylons should be not less than 1m in height, unless the SRs or test instructions specify otherwise.

Test Layouts (Production Car Autotests)

4.4.1. The minimum width of lines and gates will be 3.5 metres.

4.4.2. Any 'garage' must have a minimum length of 6 metres, and a minimum width of 3.5 metres. When competitors are required to perform a 180° turn in a box, the size of the box must be sufficient to contain a circle of 16 metres diameter.

4.4.3. Posts or pylons should be at least 1 metre high.

4.4.4. All tests should be arranged so that the whole of the course is visible to the driver at the start line.

4.4.5. The start and finish of all tests must be in a forward direction.

4.4.6. Each test must be designed so that a competitor is not expected to engage reverse gear more than four times (ignoring 'shunts' to correct mistakes).

4.4.7. Each test must be run at least twice, and preferably more than twice. Each competitor's worst performance at each test will be discarded in arriving at total penalties for the event.

Test Layouts (AutoSOLOs)

4.5.1. Only sealed surfaces may be used for AutoSOLOs which must be all forwards.

4.5.2. All parts of 4.2 apply with following exception: The course must consist of a series of gates, slaloms and turns of at least 90° every 60m. The maximum spacing of cones in a slalom along the line of the test is 20m. Turns of over 90° must be on a



About Autotests

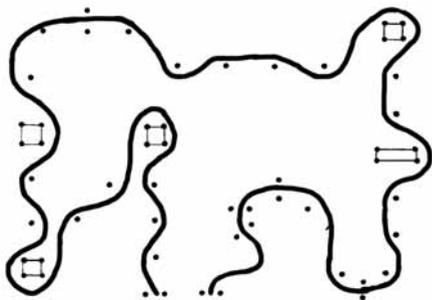
With around 500 events a year, Autotests are one of the most popular, least expensive and most enjoyable of motor sport disciplines.

Standard vehicles are used, which compete individually against the clock. The surface is normally smooth, often tarmac. The accent is firmly on driving ability with each competitor negotiating a set route between, through and around various obstacles (usually plastic pylons or cones). The accent is on precision driving

rather than speed with spin turns, reverse flicks and handbrake turns all regular parts of the entertainment.



Any roadworthy car can compete and entrants are divided into classes according to engine size and category of car. Drivers must be at least 14 years old to drive a Production Car Autotest, and at least 16 to drive a 'normal' Autotest. Competitors must hold a valid motor club membership card or an MSA Clubman Licence.



minimum radius of 5m. A typical test is illustrated above.

5. Test Procedures

5.1. The Tests

5.1.1. Deleted.

5.1.2. Drivers will be under starter's orders when instructed by an official to proceed to the start line. Any driver then failing to proceed may forfeit his run or may be penalised in accordance with F 1 (a). A start will only be valid if made under the vehicle's own power.

5.1.3. When a car is required to stop astride a line, the line must be between the front and back axles and all the area of the tyres in contact with the ground shall be seen to have crossed the full width of the line. Similarly, if the car is required to cross a line with all four wheels, all tyre contact area shall be seen to be clear of the line.

5.1.4. Timing at the completion of a test, shall be to the leading wheels (on the same axle) crossing the finish

line. Penalties will be applied for failure to do so, or alternatively, if timed to a flying finish, for crossing a baulk line. In the event of a competitor performing a test incorrectly, the actual time taken must still be recorded, together with the appropriate additional penalties.

5.1.5. In any diagram illustrating a test, dimensions will be approximate and for guidance only. Indications of the direction of travel of the competing car when crossing a line, or passing between markers will be mandatory unless specified otherwise (ignoring 'shunts' to avoid markers).

5.1.6. A maximum penalty [7.2.2 (c)] shall be applied if a competitor crosses with both leading wheels a marked test line in the wrong direction, out of the prescribed sequence or too many/few times, otherwise competitors may correct their mistakes by returning to the point where they deviated from the test diagram, unless otherwise stated in the SRs.

5.1.7. In changes of direction and spin turns, either lock may be used (unless the test diagram specifically states otherwise). It is recommended for safety reasons that drivers shall be on the 'inside' during spin turns.

5.1.8. It is recommended that Clerks of the Course wishing to define direction of travel between markers should include any necessary marked line(s).

5.2. In the event of a timing failure necessitating a re-run, the greater number of penalties incurred in either run will be added to the time taken by the competitor in assessing the performance on that test.

6. Marking

6.1. Judges will be appointed to each test to adjudicate on:

(a) False Starts.

TABLE F1	Marks lost		
	AutoSOLO	Autotest	PCA
(a) Each minute late in reporting at the start or a restart	5	5*	5*
(b) Not attempting or being ready to attempt a test when instructed to do so	20	30*	40*
(c) Not performing a test correctly, other than in (d) or (e) or not completing the test or making a false start	20	30*	40*
(d) Striking any barrier, wall or pylon or crossing the boundary of a test (per mistake)	5	10	5
(e) Failing to cross or stop at any line or specified position as required in a test (per mistake)	10	5	5
(f) Every second (and fraction) taken to complete test	1 & fraction	1 & fraction	
(g) Every second (ignoring fractions) to complete test			1 no fractions

* Plus the lowest by any competitor in the class making an attempt correctly on that run

The maximum penalty (including time) for any test cannot exceed penalty (b) or (c) above.



- (b) Crossing/Failing to cross marker lines.
- (c) Touching markers, and following correct route.

6.2. Marks will be lost for time taken (if applicable) and for any infringements of the test instructions such as striking a marker or crossing a boundary line [7].

6.3. Competitors will be provided with a score card for the organisers to record times and penalties at the completion of each test run [10.1.3].

7. Results

7.1. To be classified as a finisher, a competitor must complete not less than half of the tests and must hand in his score card to officials within 15 minutes of all other competitors completing the final test.

7.2. Competitors will start with zero marks. The competitor incurring the least penalty will be the winner, and so on.

All Class awards must be calculated on the basis of penalty marks lost.

7.2.1. In the event of a tie the competitor who was the first to have the lesser penalty from the start will be the winner, unless another method of resolving ties is stated in the SRs.

7.2.2. Performance will be assessed as in Table F1 below, unless the 'Marks Lost', stated are modified by the SRs:

Competitor's Regulations

8. Necessary Licences

8.1.1. Competitors must produce a valid club membership card and where required, a valid competition licence [B 3, B 4, Section E].

8.1.2. Competitors must declare on their entry form whether or not they hold a valid RTA licence.

9. Minimum Ages

9.1. Autotests

9.1.1. An organiser may permit entries to be accepted in respect of drivers who are 16, or 17 or over without a full RTA licence, subject to these drivers complying with 9.1.2, and 9.2.3.

9.1.2. The vehicle must by definition be a 'saloon car' which was originally designed to seat four normal adults. Passenger seats may be removed. Engine capacity must not exceed 1400cc and forced induction is not permitted.

9.2. Production Car Autotests

9.2.1. An organiser of a Production Car Autotest may, in addition, permit entries to be accepted in respect of drivers who are 14. If the driver is aged 14, 15 or 16, or does not hold a full RTA licence, the passenger must hold a full RTA licence and be a person experienced in Autotesting.

9.2.2. The vehicle is by definition a 'saloon car'.

9.3. AutoSOLOS

9.3.1. An organiser may permit entries to be accepted in respect of drivers who are 16, or 17 and over without

a full RTA licence subject to those drivers complying with 9.2.2.

10. Instructions to Competitors

10.1.1. Deleted.

10.1.2. Any competitor not reporting as instructed may be fined, penalised, excluded or forfeit his starting position.

10.1.3. Before the start, cars and competitors (which term includes passengers if any) will be checked for eligibility.

10.2. Cars competing in Autotests and AutoSOLOS must comply with Technical Regulations 11, 12, 13 and E 12.

10.2.1. A car may not be entered to compete for the same award more than twice, unless permitted by the SRs and in all circumstances it must be driven by different drivers.

10.2.2. No passenger shall be carried in any timed test except in PCAs.

10.3. The SRs must specify the minimum ages of drivers permitted to take part in the event if different to 9.1.1 and 9.2.1.

10.4. Production Car Autotests

10.4.1. One passenger must be carried in each competing car who may assist in giving directions to the driver. The passenger must occupy the seat alongside the driver and wear a properly fastened approved seat belt at all times during the test. No other passenger is allowed. If the driver holds a valid, non-provisional RTA licence, the passenger must be 14 years of age or over.

10.4.2. Cars competing in Production Car Autotests must comply with Technical Regulations 12 and E 12.

10.5. Supplementary Regulations

The SRs will specify:

* **10.5.1.** Details of the tests or when these details will be notified to competitors.

* **10.5.2.** The number of runs per driver and how these count towards the results.

* **10.5.3.** The method of identifying cars.

* **10.5.4.** The method of timing and whether or not the timing apparatus is started by the car or by the starting signal.

* **10.5.5.** The starting signal.

Technical Regulations

11. All Autotests

11.1. Body (including Aerodynamics)

11.1.1. Have the body shape to conform to the original silhouette and retain the original layout of engine and transmission as the production vehicle.

11.1.2. Bumpers may be removed and wheel arch extensions added as appropriate.

11.1.3. Be equipped with an effective windscreen or Aero-type screen.



11.1.4. Vehicles not complying with the foregoing will be classified as Specials.

11.2. Engine. Must comply with E 12.4.2.

11.3. Wheels. Deleted.

11.4. Transmission. Deleted.

11.5. Silencing. Must comply with silencing levels E 12.17.

11.6. Safety. All open cars and Specials are recommended to be fitted with safety roll-over bars, to at least Q 1.5.1.

11.7. The following parts of E 12 remain unmodified by this section:

Chassis; Seating; Suspension; Brakes; Steering; Tyres; Cooling; Oil Systems; Fuel Systems; Electrical Systems; Weight/Ballast; Exhausts; Silencing.

11.8. Miscellaneous

11.8.1. Be currently registered and taxed as a Private car, *unless this is relaxed by SRs due to the event taking place wholly on private property.* Whilst on the Public Highway vehicles must comply with all Statutory Regulations as to Construction and Use.

11.8.2. Battery powered vehicles may compete subject to SRs.

11.8.3. Light commercial vehicles may be admitted in appropriate classes subject to this being permitted in SRs.

11.8.4. Production cars whose original wheelbase is less than that specified in E 12.19.7 are permitted.

11.8.5. Any areas of windows, opening or transparent material originally specified as part of the vehicle, in order to provide driver visibility must remain to the original specified dimensions and position. No additional areas may be added. If a vehicle is equipped with any such additional areas they must be rendered opaque before being allowed to compete.

12. Specific Regulations for Production Car Autotests

12.1. Classes are free but the following are recommended. The class structure must be stated in the SRs.

Class 1 All cars up to and including 12ft long

Class 2 All cars over 12ft and up to and including 14ft long

Class 3 All cars over 14ft long.

12.2. Every PCA car must have been in series production and on general catalogued sale, available from stock through normal retail dealer outlets in the UK.

12.3. Open or sports cars will only be permitted to compete with the hood erected or a hard top fitted.

12.4. Deleted.

13. Specific Regulations for AutoSOLOs

13.1. Every AutoSOLO car must have been driven to the event, must be currently registered (no trade plates), taxed, insured and where appropriate in possession of valid MOT certificate which must be available for production at the event.