

STRUCTURAL INTEGRITY TESTING IMPORTANT INFORMATION FOR PREPARERS (PROFESSIONAL OR INDIVIDUAL) OF CARS TO BE ENTERED IN GRAND PRIX MASTERS SERIES 2007

1. The preparer must be able to demonstrate that clearly traceable systems are in place and adhered to for the checking for structural integrity by a non-destructive test of each of the following components: -

- a) Road wheels constructed from or containing magnesium parts.
- b) Road wheels constructed from cast aluminium (N.B. spun or machined aluminium parts or components are exempted).
- c) Suspension wishbones, rockers and push/ pull rods.
- d) Steering arms
- e) Wheel hubs.
- f) Suspension uprights, whether cast or fabricated.
- g) Suspension pick-up points
- h) Steering column
- i) Roll hoop welds.
- j) Brake pedal mechanism

It is strongly recommended that similar inspections should be carried out on components that are stress bearing and vital to the integrity of the car but which may not be contained in the list above.

Where suspension pick up points are integral with the tub rendering them incapable of condition testing they must be clean and in visibly good condition.

2. All of the above components must be tested using a method of non-destructive testing appropriate to the material and type of construction of the component in question. Each component must be identified by having indelibly marked or etched upon it, or by attachment of a unique identity label e.g. aluminium self-destruct on removal type. This should include or provide a definitive link to the relevant CERTIFICATE No. (as issued by the inspecting company) and a unique COMPONENT No. (an arbitrary number which serves as a unique identifier of the component listed on the test certificate).

The marking, label or etching must be positioned so as to be clearly legible whilst fitted to the car, without the need for dismantling.

If markings are required to be etched into the component, the markings should be positioned in an area of nil or low stress. The method of etching should ensure that the depth of impression into the material surface is kept to a minimum.

3. The Company or Establishment responsible for verifying the structural integrity of components must be approved to UKAS (United Kingdom Accreditation Service) or its National equivalent. The Company or Establishment must supply the vehicle owner with a certificate or letter on official headed notepaper (photocopies are not acceptable) certifying that they have tested the components listed, and numbered, upon the certificate.

The certificate or letter issued by the Company should contain the following information on each sheet:

- Name and address of the company
- Any company registration number
- A unique serial number for the complete certificate representing the series of tests upon the components listed
- The make of the vehicle
- The chassis number of the vehicle
- The name of the Testing Inspector
- The qualification (if any) of the testing inspector
- The signature of the Testing Inspector
- Date of issue of the certificate

The certificate should list the following information about the numbered list of the components subjected to the tests:

- A brief description, for example "*Front, top wishbone*".
- Method of testing, and standards used
- Status of the component after the test (pass or fail)

For example, on a certificate with a serial No. 278S, the list of components might include: "12. Front top wishbone".

That component could be marked: "278S/12" or with an equivalent unique identifier.

The parts fitted on the vehicle must at all times correspond to those listed on the certificate. Spare components intended for use on the vehicle shall be subjected to the same inspection criteria as "in-use" items and should be detailed on the certificate.

4. The certificate will be valid for two years. For spare components not previously fitted the two years will date from first usage to a maximum of five years from date of certificate.

5. Generally all new components must be subjected to testing and certificates obtained. New plated components however may be presented in 2006 with an identifying invoice from a recognised specialist manufacturer.

6. The acceptance standards for all components are shown in the following paragraphs. All components should be presented to the testing Company in an appropriate state for testing, i.e. items cleaned, free of paint and fittings removed (where applicable).

Magnesium Alloy Wheels

All detected cracks render the component unacceptable.

Severe corrosion found by visual inspection is not acceptable

Any defect found which gives cause for concern should be further investigated using an alternative method of testing.

Wheels should be inspected in the following areas: Bead seats; Outer flange face; Attachment bolt holes; Raddii; Spoke run-out areas (on the tyre face also).

Uprights

For steel fabricated uprights, particular attention must be paid to welds, heat affected areas and attachment areas. The level of acceptable weld faults shall as be defined in Category B of BS EN 25817:1992 (or current issue).

In the case of welded aluminium fabricated components, the level of acceptable weld

faults shall be as defined in Category B of BS EN 30042:1994/ISO 10042:1992 (or current issues).

No cracks, inclusions or lack of fusion will be acceptable.

7. The original copy. NOT A PHOTOCOPY, of the certificate must be appended to the Historic Vehicle Identity Form or Historic Technical Passport.

8. When a car has an accident, the damage must be inspected and the certificates withdrawn for those components on that car. When an assessment has been made of the extent of the damage, a re-issue to the competitor of a certified copy of the certificate with the damaged components crossed through may be made. Before the car is allowed to run again, the car must be thoroughly inspected to ensure that all components match a valid test certificate. Any components totally destroyed must be deleted from the original test certificates.

Any uni-ball type rod-end suspension or steering joints, which may have been subjected to any impact during an accident, must be replaced upon request.

9. The tests must be carried out with reference to the following standards and shall be further defined by an appropriate Test House Procedure:

Visual Inspection

BSEN 970:1997 (or current edition)

Penetration Flaw Detection

BSEN 571-1:1997 (or current edition)

Magnetic Particle Flaw Detection

BS 6072:1981 (or current edition)

X-Ray Flaw Detection

BSEN 1435:1997 (or current edition)

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