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MSA CROSS COUNTRY CAR CIRCULAR 4 OF 2015

Most of the Part II articles in this bulletin have been changed to better align the newer class T vehicles with the MSA rules as well as the FIA/Dakar rules without making the older T and S vehicles obsolete. Most changes are around the body. Some changes are very minor, please read carefully. There is a tyre rule change, proposed engine change and a sporting rule addition.

A. Please refer to: **REGULATIONS APPLICABLE TO CROSS COUNTRY RACING – PART II: CLASSIFICATION AND VEHICLE SPECIFICATIONS**

1. Add the following to **ART 6 CHASSIS AND SAFETY CAGE**

6.2 GENERAL

The fitting of a safety cage is compulsory, **and must fully comply with Art 6. The safety cage must be either homologated by the FIA, or accepted by the CCRC, based on the fulfillment of the requirements as set out in Art 6. (Also refer Art 1.4)**

Photographs of the safety cage will be placed in the Technical Passport of the vehicle, starting 2015.

No modifications to the safety cage as entered in the passport will be allowed.

In the case where a safety cage has been damaged, it has to be presented to the Technical Delegate for inspection, and a proposed repair procedure presented for approval in consultation with the original manufacturer. The repair will be recorded in the passport.

The safety cage may be either:

- a. **Fabricated in compliance with the requirements of the following articles;**
- b. **Homologated or Certified by an ASN according to the homologation regulations for safety cages;**

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An authentic copy of the homologation document or certificate, approved by the ASN and signed by qualified technicians representing the manufacturer, must be presented to the event's scrutineers. Any new cage which is homologated by an ASN and is on sale must be identified by means of an identification plate affixed to it by the manufacturer. This identification plate must be neither copied nor moved (i.e. embedded, engraved or self-destroying sticker). The identification plate must bear the name of the manufacturer, the homologation or certification number of the ASN homologation form or certificate and the individual series number of the manufacturer. A certificate bearing the same numbers must be carried on board and be presented to the event's scrutineers.

b. Homologated by the FIA according to the homologation regulations for safety cages;

The manufacturer's identification and a series number must be clearly visible on all cages homologated and sold after 01.01.1997.

The homologation form of the cage must specify how and where this information is indicated, and the purchasers must receive a numbered certificate corresponding to this. Any modification to a homologated or certified safety cage is forbidden. To be considered as a modification, any process made to the cage by machining, welding, that involves a permanent modification of the material or the safety cage. All repairs to a homologated or certified safety cage, damaged after an accident must be carried out by the manufacturer of the rollcage or with his approval.

Tubes must not carry fluids or any other item.

The safety cage must not unduly impede the entry or exit of the driver and co-driver.

The cars must have lateral openings in the safety cage allowing the exit of the driver and possible co-drivers.

The dimensions of these openings must be such that it is possible to fit into them a rectangle at least 500 mm wide and 500 mm high, measured vertically, the corners of which may be rounded with a maximum radius of 150 mm.

The cockpit must be designed so as to allow an occupant to exit it from his normal position in the vehicle within 7 seconds through the door on his side and within 9 seconds through the door on the other side.

For the purpose of the above tests, the occupant must be wearing all his normal equipment, the seat belts must be fastened, the steering wheel must be in place and in the most inconvenient position and the doors must be closed. These tests must be repeated for all the occupants of the car.

2. Please replace and add the following to the wheelbase clause in **ART 8.2.5.1 and 8.3.5.1 SUSPENSION:**

General:

- The wheelbase for all vehicles competing in classes T and S will be 2975mm, \pm 100 mm. The x-position of the front axle is free, respecting art 8.2.8. and 8.3.8. The x-position of the rear axle is determined by the wheelbase and the position of the front axle.

3. Please replace ART 8.2.8 and ART 8.3.8 BODY (Class T and S), with the following:

- a. **8.2.8 Body (Class T) and 8.3.8 Body (Class S) (Refer Addendum 1, 2, 3, 4 and ART 1.5)**

8.2.8.1 The body of the vehicle must be from the model range of the make of vehicle specified in the Technical Passport. The standard body profile side view *proportions* from the front of the grille, bonnet and fenders to the rear of the crew cab and to the rear of the load body must be retained. The same applies to the plan view, front view and rear view. ***The modifications are allowed in the spirit of retaining the production vehicle appearance, ie. The standard body profile proportions must be retained.***

- a) The standard windscreen aperture and rake must be maintained.
- b) The standard headlights and radiator grille to be retained and mounted in standard lay-out.
- c) The horizontal distance from the base of the windscreen to the front edge of the bonnet, may not exceed the standard vehicle dimension. To be measured on the vehicle centreline, with the sills set level.
- d) The vertical distance between the base of the windscreen and the horizontal centre of the headlight/grille assembly to be not less than the standard vehicle dimension. To be measured on the vehicle centreline, with the sills set level.
- e) The front and rear overhang dimensions are 660 mm minimum, and has to be maintained over a minimum lateral distance of 500mm around the centreline of the vehicle (250mm each side). The front and rear departure angles are free.
- f) The front bumper, bonnet and fenders may be modified respecting a), b), c), d) and e), and must blend in with the windscreen, headlights and grille in their original orientation to maintain the production vehicle appearance in standard body proportions.

- g)** The three (side-, plan-, rear-) profiles of the cab and load body must reflect the profile proportions of the production vehicle.
- h)** The width and height of the crew cab may be increased from standard to comply with the FIA regulations with the specific written permission of the Commission President.
- i)** The crew cab may be remanufactured from composite material, respecting Art 8.1.9.2.
- j)** The front doors must remain in the original production material, be of the original shape and size and be fitted to the racing vehicle using the original steel hinges with all the steel bolts in their original positions bolted onto the steel chassis frame. The original door locks must be retained, opening from inside and outside. Window winding mechanisms may be removed, respecting Art 8.1.26
- k)** A 75% portion of the interior flat area of the production door frame, as covered by the production interior cover, may selectively be cut away to lighten the door without affecting the structural rigidity of the door adversely. The doors must still provide sufficient protection for the occupants in the case of an accident.
- l)** Should the space below the floor of the crew cab be utilised for components and storage, the sills may be extended from the floor level downwards and laterally not wider than the maximum vehicle width of 2000mm blending into the wheel arch extensions.
- m)** The standard doors may be shortened at the bottom by up to 200mm, to accommodate the larger cab sills, respecting paragraphs j) and k), and remaking the bottom portion of the door frame in steel.
- n)** All window openings other than the cab rear window must be retained in their original position and be of the original size and shape. These windows other than the front door windows may be transparent, open or opaque. Refer Art 8.1.26

8.2.8.2

The maximum width of the vehicle is 2 meters, excluding the rear view mirrors. The wheel arches and the cab sills may be extended to this maximum of 2 meter overall width by the use of fender flares and laterally extended sills. The wheel arches may be repositioned to accommodate the wheelbase and overhang specified. Seen in vertical projection, the body work must cover at least 120° of the upper circumference of the wheels situated above the wheel axis as viewed from the side. This width measurement must be checked with the ride height set at 300mm measured at the front under the sump guard, and the sills level. Refer Addendum 1.

- 8.2.8.3** Two air vents or two bulges to accommodate approved under-bonnet modifications, may be added to the bonnet of a racing vehicle, however, these may not protrude more than 50mm above the modified base profile of the bonnet.
- 8.2.8.4** Air ducting to rear mounted water radiators may be fitted on the passenger cabin roof, but should follow the roof line to maintain the profile of the cabin. These additions are subject to the specific approval of the Commission in writing through the Technical Delegate.
- 8.2.8.5** Vents or scoops may be added to the cabin roof for the purpose of providing ventilation for the driver and navigator. These vents must be blended to fit the roof profile.
- 8.2.8.6** The original body work sheet metal and hardware, onto which the headlights, radiator, and grille is mounted, may be removed and replaced with a fabricated structure designed to perform the same function, providing none of the other provisions in these regulations are contravened and the finished vehicle retains its original outward appearance.
- 8.2.8.7** The firewall between the engine compartment and the passenger compartment, along with the floor of the passenger compartment and the tunnel, which forms part of the floor, may be removed and refabricated in order to accommodate authorised non-standard components, respecting Articles 5.5 Safety Belts and 6.5 Seats and Seat mountings, and providing none of the other provisions in these regulations are contravened and the finished vehicle retains its original outward appearance. The new tunnel, floor and firewall may be fabricated from steel or composite. A single layer of carbon will be allowed on the top side of the tunnel, floor and firewall for aesthetic purposes. The Technical Delegate reserves the right to drill a 30mm hole with a hole saw in a place of his discretion to analyse the composition of the components. Refer Art 8.1.9.1 and 8.1.9.2
- 8.2.8.8** Reserved.
- 8.2.8.9** The production dashboard may be retained or remade in a similar shape and size in an alternative material which is non-metallic. All other trim should be removed. Refer Art 8.1.9.2
- 8.2.8.10** Competitors intending to convert station wagons, SUV's, panel vans etc. must obtain the prior approval of the

Commission through the Technical Delegate, and be briefed on the Commission's specific interpretation of the class T rules and how they will apply to such vehicles.

- 8.2.8.11** The floor pan behind the crew may be cut and modified or remade to accommodate the fuel tank. The fuel tank and fuel lines must be separated from the cockpit by a liquid and fireproof bulkhead. Refer Art 5.9

4. Please add the following to **ART 8.2.2.3 and 8.3.2.3 ENGINE POSITION (class T and S)**

8.2.2.3 Engine position. The intersection of the front face of the cylinder block and the crankshaft centerline must be more than 100 mm forward of the front axle centerline.

8.3.2.3 Engine position. The intersection of the front face of the cylinder block and the crankshaft centerline must be more than 100 mm forward of the front axle centerline.

Engine height to be governed by the Commission Approved front differential housing mounted generally on the front axle centerline, and the engine mounted over this differential. See Addendum 3.

5. **FORCED INDUCTION PETROL ENGINES:** It has been decided to allow forced induction petrol engines in class T for 2015 as a trial run. This may be allowed for competitors on request for dispensation. Detail regulations have not been finalised, but the following parameters will be applicable:

- a. 2015 allowed on application for dispensation only.
- b. Forced induction will only allow single unit turbochargers for 2015. Separated shaft driven, belt-, gear- and electrically driven compressors will not be allowed.
- c. Capacity factor is 1,7 for weight and restrictor sizes.
- d. The maximum equivalent engine capacity is 5020 cc (art 8.2.2.1)
- e. Group N engines only.
- f. Restrictor sizes and vehicle weight as per SSR PART II: Art 3. PERFORMANCE CONTROLS.
- g. Turbochargers to be homologated after approval by the Commission.
- h. Standard inlet manifold, and exhaust manifold to be Commission approved with the turbocharger.
- i. Mechanical pop-off valves in the inlet manifold set to an agreed boost pressure with a logging device to monitor boost pressure continuously during the race.
- j. Air to air intercoolers only. Maximum air volume to be specified.
- k. Under-bonnet heat to be managed. High temperature components to be wrapped, and fuel and electrical components to be shielded to lower the fire risk for vehicle and terrain.

6. **PRODUCTION VEHICLE CATEGORY - TYRES:** After representation by Regional and class D and E competitors, it has been decided not to implement the Michelin/BF Goodrich ban for cost reasons. The ban will only be applicable to class S.

7. Please replace ART 8.1.22 with the following:

8.1.22 Tyres – Each Production vehicle competitor will be allowed a maximum of 4 new tyres, and/or previously raced tyres per event competed in. (8 NEW and/or previously raced tyres for Marathon Events). If requested by the organizers, the new tyres must be presented, mounted on rims, at scrutineering where they will be suitably marked. Any tyres rendered unusable during the event, due to punctures or damage, may only be replaced with tyres previously raced in an event. For class S, Michelin/BF Goodrich tyres are not permitted. Custom tyre grooving allowed for previously raced tyres only. The term “previously raced” is at the discretion of the organisers, and means “previously raced”. It specifically excludes running a few times up and down the road on new tyres, or skimming new tyres. It is advisable for competitors who retire early in a race to have the tyres accepted and marked by the Technical Delegate for use as previously raced in the next race.

B. Please refer to: **REGULATIONS APPLICABLE TO CROSS COUNTRY RACING – PART I: APPLICABLE TO ALL EVENTS**

1. Please add the following to **SSR 305. ROUTE DIRECTION AND DEVIATION**

[iii] In the case of a competitor getting lost on the route, the deviation shall be corrected by rejoining the route as close as safely possible to the original point of deviation, so as not to be penalised as in SSR's above. When backtracking to find the correct route, competitors shall drive slow and exercise extreme care so as not to meet competitors from the front who may follow the same incorrect track created by the first offender. Ensure that the correct direction of flow is followed when rejoining the correct route safely. Refer: GCR 172, GCR 173, SSR 300 (x) d) and SSR 318 B (i) c)

Issued by: MSA Cross Country Car Commission President on behalf of the Commission

Date: 6th May 2015



WAYNE RIDDELL
SPORTING SERVICES MANAGER

Date: 6th May 2015

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ANNEXURES

- Addendum 1 : Bodywork
2 : Suspension
3 : Engine position
4 : Drawing 285-1 (FIA requirement)

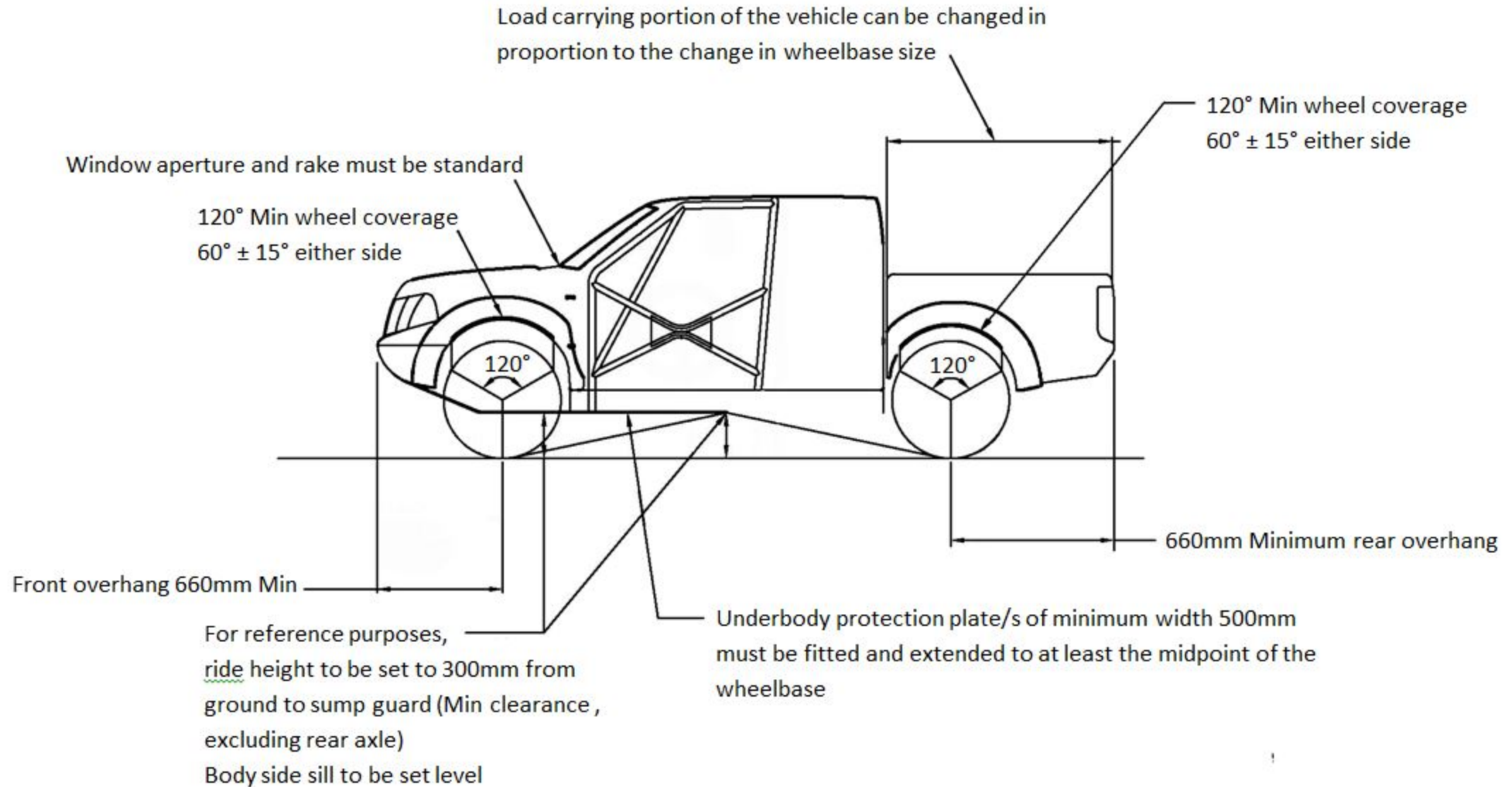
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Addendum 1

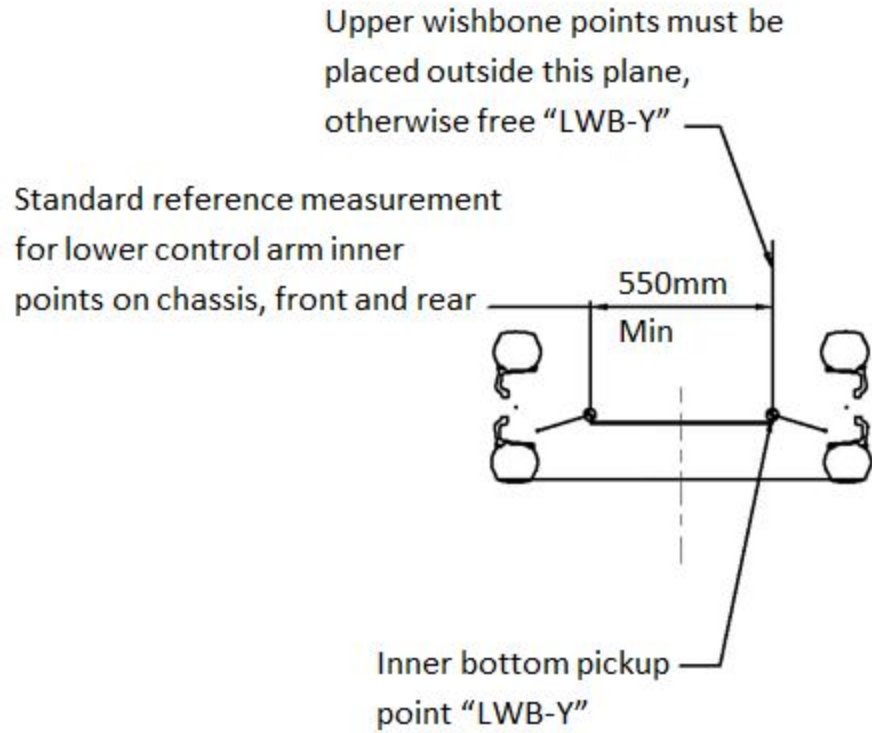
Bodywork

Silhouette formula – Only change to silhouette where specified



Addendum 2

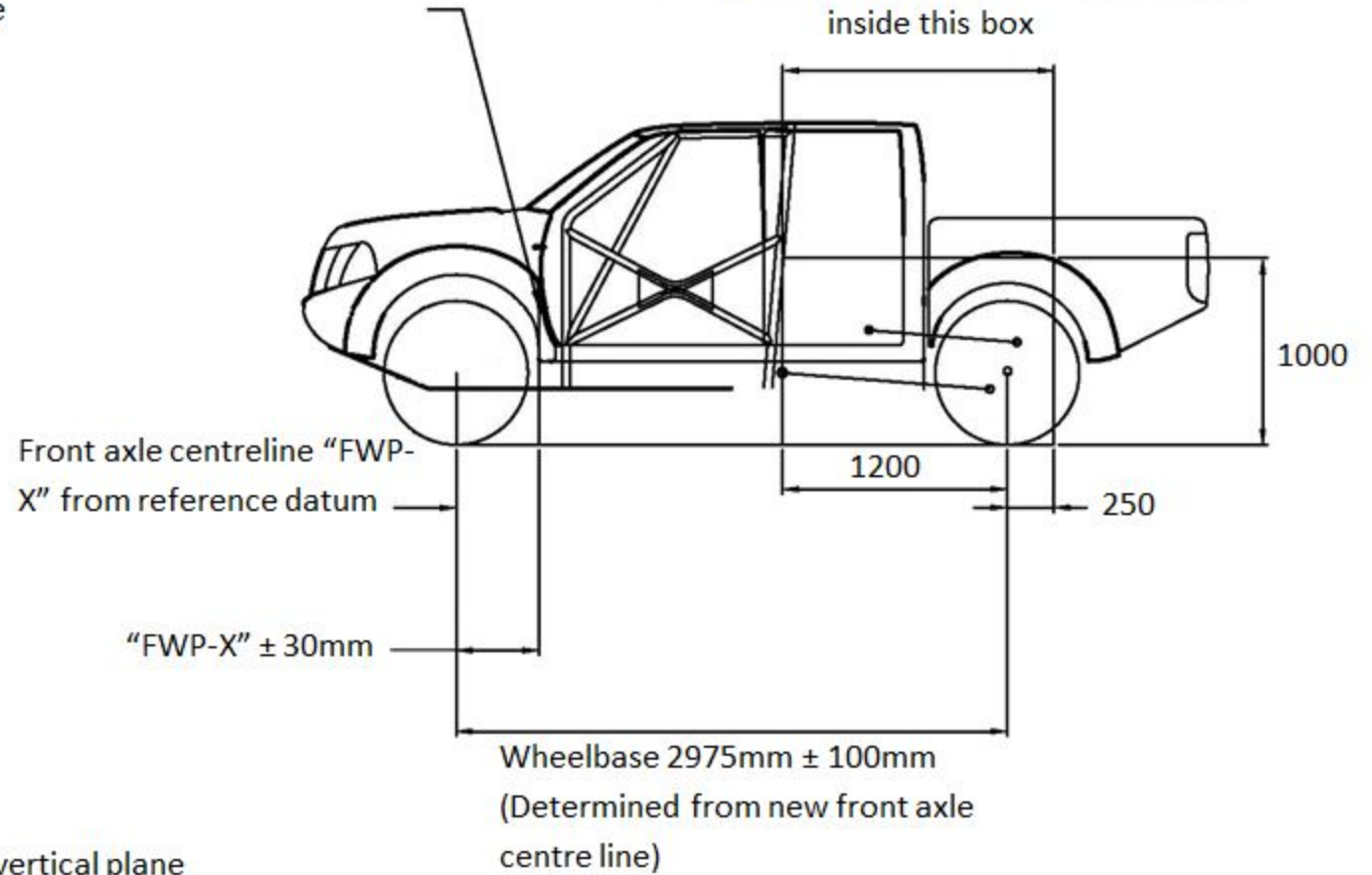
Suspension



NOTE:
 Front axle centre line is the vertical plane through the front wheel centres in the straight ahead steering position

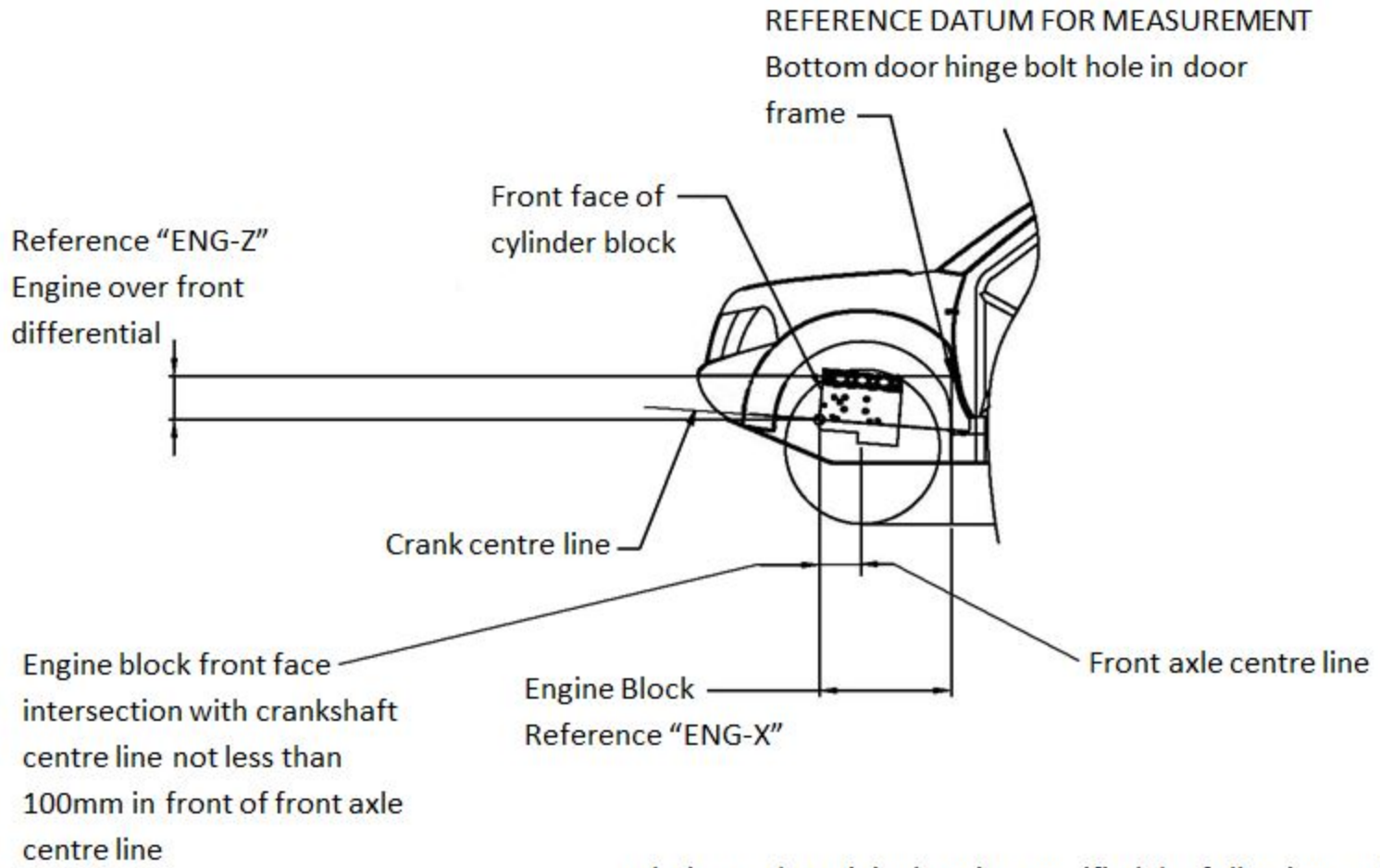
REFERENCE DATUM FOR MEASUREMENT
 Bottom of door hinge bolt hole in door frame

Boxed Area allowed for rear suspension
 1.2m ahead, 0.25m behind new axle centre line and 1m above the ground.
 All suspension points must be positioned inside this box



Addendum 3

Engine Position



MASTER DIMENSIONS TABLE	
VEHICLE MAKE	
VEHICLE MODEL	
VEHICLE MANUFACTURE YEAR	
ENGINE MODEL	
ENGINE: X	
ENGINE: Z	
FRONT WHEEL POSITION: "FWP-X"	
LOWER WISHBONE POSITION: "LWB-Y"	
WHEELBASE	

Relative to the original engine specified the following applies:
 Note 1: Engine may be rotated around the crank axis $\pm 5^\circ$
 Note 2: Engine may be moved left or right to facilitate fitment
 Note 3: The height of the rear of the engine is free

Addendum 4 (FIA requirement)

Drawing 285-1

