

## **PART III**

### **Technical Rules**

Version 1. February, 2011. (All older regulations are not valid). **Only the version published on the [www.eurotrial.org](http://www.eurotrial.org) website is valid. Blue text with lone trough is old not valid text, red text is the changed text that is valid for 2011**

#### **3.1 Permissible vehicles - approval**

##### **3.1.1 Permitted vehicles**

Only four-wheel-drive vehicles may participate in the competitions. For groups O, S and M, at least 50 identical vehicles must have been produced world-wide, and if there is any doubt about this, it is the owners responsibility to show this.

##### **3.1.2 Classes**

There are five groups you may participate in:

Trial-group O (original / original vehicles)

Trial group S (standard / series vehicles)

Trial-group M (modified / improved series vehicles)

Trial group PM (Pro modified / improved modified vehicles)

Trial group P (prototypes)

##### **3.1.3 Weight**

The vehicle gross weight must not exceed 3500kg.

##### **3.1.4**

Quad and ATV are not permitted.

#### **3.2 Safety regulations**

##### **3.2.1**

Each country's safety regulations are valid.

##### **3.2.2 Helmets**

Passenger helmets must be worn in all groups and sections. The helmets must comply with the ISO-Standard for vehicles use.

##### **3.2.3 Driving-suite**

The driver and co-driver must wear a protective suit or an overall in all sections. Non fire-proofed overalls must be made from cotton.

##### **3.2.4 Intercom**

Intercom between driver and codriver is allowed, all type of wireless systems is not allowed

##### **3.2.5 Safety cage/roll cage**

###### **3.2.5.1 Construction**

Multi-tubular structure installed in the cockpit with the function to reduce the deformation of the passenger area in case of an impact or rollover.

###### **3.2.5.2 Specification of parts in the rollcage**

##### **Rollbar**

Tubular frame forming a hoop with two mounting feet.

##### **B-bar, main bar**

Structure, consisting of a nearly 90 degree connection, should be crosswise in the vehicle directly behind the front seats. With upright seating position the shoulder must be within the bar external dimensions. The B-bar must be bent and made from one piece of steel tube.

##### **A-bar, front bar**

Similarly as the B-bar, however it should follow the outer windscreen holders, as well as the upper edge of the windscreen.

**Lateral rollbar**

Near-longitudinal and near-vertical single piece tubular hoop located along the right or left side of the vehicle, the front pillar of which follows the windscreen pillar and the rear pillar of which is near-vertical and located just behind the front seats. **Each lateral rollbar must be bent and made from one piece of steel tube.**

**Lateral half-rollbar**

Identical to the lateral rollbar but without the rear pillar. **Each half-lateral rollbar must be bent and made from one piece of steel tube.**

**Longitudinal member**

Near-longitudinal tube joining the upper parts of the A-bar and B-bar.

**Transversal member**

Near-transversal tube joining the upper parts of the lateral half-rollbars or of the lateral rollbars.

**Diagonal member**

Transversal tube between one of the top corners of the B-bar,

or

one of the ends of the transversal member in the case of a lateral rollbar, and the lower mounting point on the opposite side of the rollbar.

or

the upper end of a backstay and the lower mounting point of the other backstay.

**Backstay**

Longitudinal tube between the top corners of the B-bar, or one of the ends of the transversal member, in the case of a lateral rollbar, and the rear of the vehicle.

**Roof reinforcement**

Tube which runs diagonally across the roof, from one corner of the cage to the other corner of the cage or one tube which runs longitudinal from one of the highest points of the B-bar to the other side of the A-bar. This construction must also be reinforced in each corner.

A space of at least five cm between the helmet and the tubes is recommended.

**Mounting foot**

Plate welded to the end of a rollbar tube, to permit its bolting and/or welding to the bodyshell/chassis, usually onto a reinforcement plate.

**Reinforcement plate**

3 mm steel plate fixed to the bodyshell/chassis under a rollbar mounting foot in order to more efficiently distribute the load onto the bodyshell/chassis. The minimum area of the plate must be 100cm<sup>2</sup>. The steel plate must be fitted with screws or welded to the body. When the steel plate is screwed to the body, a 100cm<sup>2</sup> large counterplate must be used.

The plate must be attached with at least 4 screws of minimum size M8, at least ISO standard 8.8 to the body. For vehicles with a plastic car body, the bar / cage must be attached to the framework.

**Roof**

The roof space between the A and the B bars must be covered with a steel plate with a minimum thickness of 2 mm, or an aluminium plate with a minimum thickness of 3 mm.

The plate must be fitted with screws in at least **six** points (quantity M8, ISO standard 8.8) or welded with a minimum of **six** welding seams, each with a minimal length of 5 cm. **The minimum requirement is one seam/screw in each corner of the roof, one in the middle of the A-bar and one in the middle of the B-bar.**

Valid for all groups with roll cage.

A space of at least five cm between helmet and plate is recommended.

**Additional safety bars/tubes**

Additional tubes/bars, for example doorbars, windscreen pillar reinforcement and similar, are allowed.

No specifications regarding the construction on additional tubes/bars.

### 3.2.4.3 Tube dimension

For all constructions the minimum dimension is 38 x 2.5 mm or 40 x 2.0mm.

Only constructions made from steel **tube** are allowed.

### 3.2.4.4 Basic structure must be made according to one of the following designs

~~One B-bar~~

~~two backstays~~

~~four mounting feet~~

~~Only allowed in class O and S for:~~

~~1. vehicles without free standing windshield frame.~~

~~2. vehicles with original steel roof~~

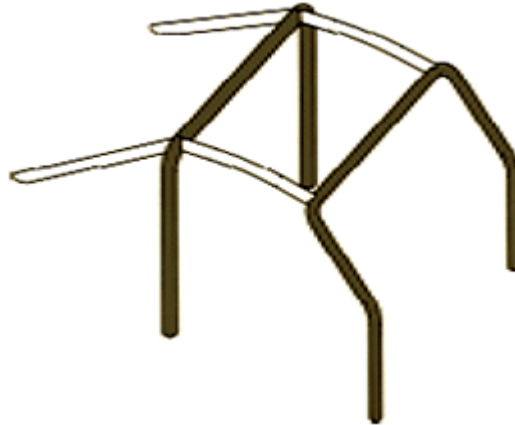
One B-bar

one A-bar

two longitudinal members

two backstays

six mounting feet



One B-bar

Two lateral half-rollbars

one transversal member

two backstays

six mounting feet



Two lateral rollbars

two transversal members

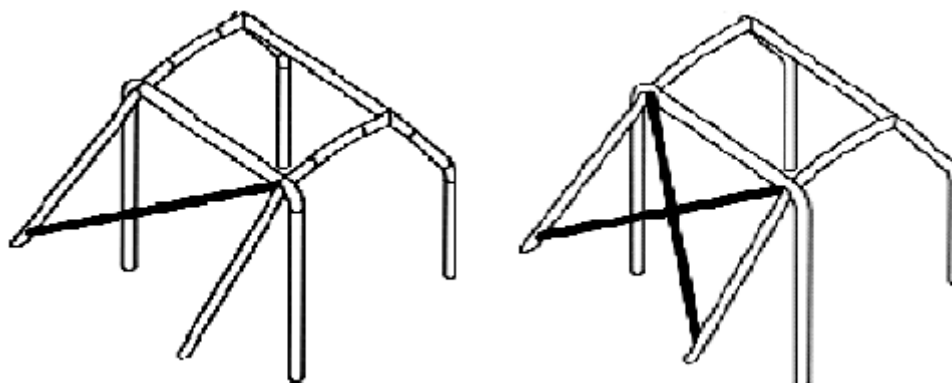
two backstays

six mounting feet

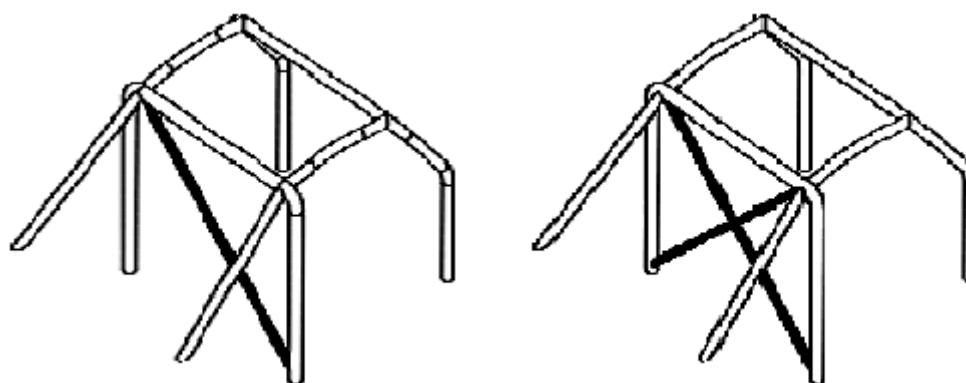


### 3.2.4.5 Diagonal member Diagonal member:

The cage must have one of the diagonal members shown on following drawing.  
The orientation of the diagonal member be reversed, and made double as a cross.  
Members must be straight.

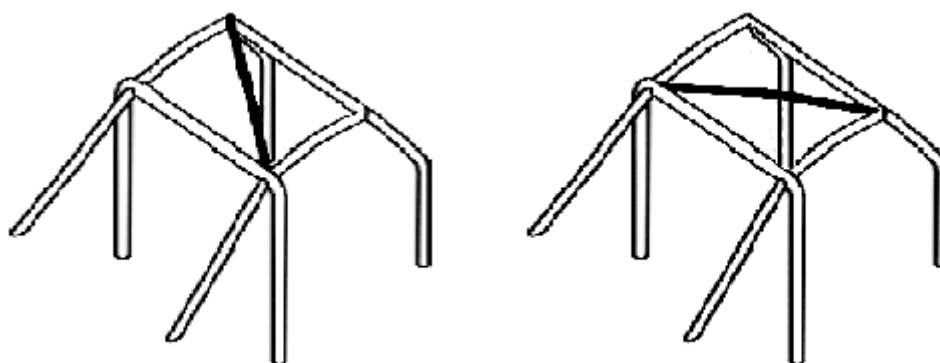


Diagonal member may also be mounted in the B-bar.  
The orientation of the diagonal member be reversed, and made double as a cross.



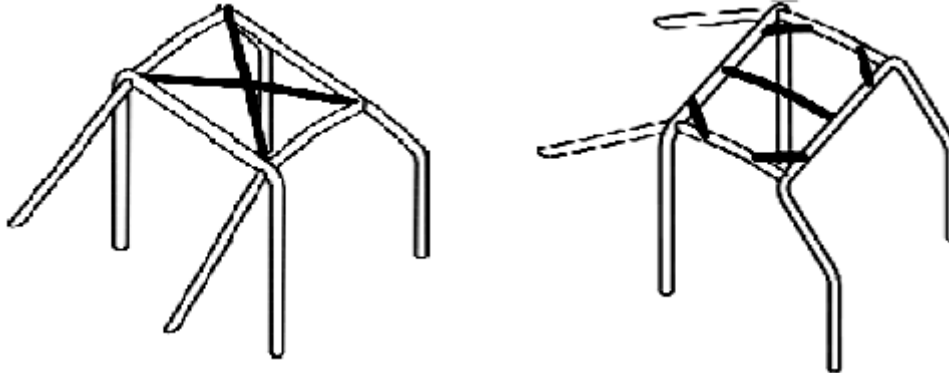
### 3.2.4.6 Roof reinforcement Roof reinforcement :

The upper part of the safety cage must comply with one of following roof reinforcements.  
The reinforcements may follow the curve of the roof.  
The orientation of the diagonal tube may be reversed, and made double as a cross.



Tube which runs longitudinal from one of the highest points of the B-bar to the other side of the A-bar, must also be reinforced in each corner according to the drawing beside.

A space of minimum five cm between helmet and tubes is recommended.



### 3.4 TRIAL GROUP O (ORIGINAL VEHICLES)

#### 3.4.1 General information

Modification of the vehicle is forbidden unless specifically allowed and only the permitted changes are allowed. The car must follow the manufacturer's conditions, like EU regulations or main importer regulations. All accessories and all special equipment, which can be supplied with the vehicle purchase, are allowed if no restrictions are present. Older vehicles may be brought up to date, according to its type. Only diesel or standard petrol is allowed as fuel. Beyond this the following regulations apply:

#### 3.4.2 Frame/body

##### 3.4.2.1 Frame/chassie/wheelbase

Original.

##### 3.4.2.2 Body

Original. **Sill protection is allowed other body protection is not allowed, body parts can only be replaced by original body parts or similar in the same material**

##### 3.4.2.3 Dimension / Vehicle outline

The dimensions must correspond to the manufacturer data.

The vehicle outline may not be changed with masking tape or other measures.

##### 3.4.2.4 Window/window frame/mirror

Windscreen and windscreen frames may not be removed or folded down.

In group O laminated glass, "Lexan" or "Makralon" is recommended. **Plexiglas is forbidden.**

Windscreens should not have damages, for safety reasons. Should damage occur the windscreen must be approved by technical control. If the car is outfitted with a roll bar, the windscreen can be removed but the original windscreen frame must remain. Mirrors of all kinds are allowed.

##### 3.4.2.5 Body lift

-

##### 3.4.2.6 Bumper

The bumpers may not be removed. The plastic bumper corners may be removed.

In the case of partly or totally damaged bumpers during the section, they must be repaired before the next section.

**No additional bumper protection is allowed**

##### 3.4.2.7 Floor / firewall / transmissiontunnel

Original.

### 3.4.2.8 Passenger area

Original.

### 3.4.2.9 Seats

The seats of the passengers must be firmly embedded, seats must have head rests.

**Its allowed to change seats into seats ment for racing with possibilities for 4 point harness.**

### 3.4.2.10 Harness

Harness must have at least 3-point mounting.

**Harness of type 4-point belts or so-called suspender belts (y-belts) or more are recommended**

The passengers must be buckled at all time in the section. The belt system used is to be put on according to its regulation and may not be manipulated. Electric lockable belt-systems are allowed and must function. Vehicles with active airbag or belt restrain systems must be marked at both doors with the "Airbag"-symbol.

### 3.4.2.11 Rollcage

~~At least one overall bar is prescribed for open vehicles. This has to look as follows: B-bar, backstays and diagonal member 3.2.4.5. This bar is also recommended for all other vehicles of this group.~~

~~For cars with free standing windshield frame a six point rollcage is mandatory.~~

~~This must consist of a Basic structure according to 3.2.4.4, backstays, diagonal member 3.2.4.5 and roof reinforcement 3.2.4.6.~~

~~Serial existing over roll bars may not be changed. The Original B-bar of the Suzuki SJ / Samurai is not accepted as a rollbar. Original tubing handles may be renewed while maintaining the original external dimensions.~~

~~Vehicles without rollover bars must install later such a mechanism.~~

~~See 3.2.4 for more info.~~

**In the group O a sixpoint rollcage is mandatory. The rollcage must consist of a Basic structure according to 3.2.4.4, backstays, diagonal member 3.2.4.5 and roof reinforcement 3.2.4.6.**

**See 3.2.4 for more info. Outside rollcage is allowed but, but additional tubes can not in any way protect the body parts except sills**

### 3.4.2.12 Protective netting /Armstraps

Recommended but not necessary.

### 3.4.2.13 Body attachment

Hardtop, tarpaulin with linkages inclusive all locked mounting plates, rear flap, rear seats, spare wheel, spare wheel handle, mirror and mirror handle, door and back windows may be removed. Edgeways mouldings, side turn signal, door handles and the original doors must be present. Original doors can be reduced to half doors. Vehicles delivered without doors must likewise be equipped with at least half doors. The material must be splinter-proof, for example wood, metal, Lexan.

Definition for half doors with vehicles without serial doors:

There must be a cover available, which prevents feet or legs from falling out when the vehicle is tilted. This cover must have at least the height of the belt line of the vehicle. In addition the cover must have at least the height of the highest point of the unloaded seat. The cover can consist of e.g. sheet metal, wood, lattice, etc. The cover can be made to be opened. Belt line is defined as follows: In front the line of the bonnet. For open vehicles back and side, the side above the wall. For closed vehicles, if no open version exists, the bottom edge of the side window, and the back window.

### 3.4.2.14 Fluid tubes

Original.

### 3.4.2.15 Towing eye/hook

There must be either one towing eye or hook in the front and in the back with an inside diameter of at least 50 mm. They must be firmly embodied, easily accessible and have to be painted red, yellow or orange, so that the body of the vehicle contrast with the towing eye/hook.

### 3.4.2.16 Undershield

Undershield is optional.

### **3.4.3 Suspension**

#### **3.4.3.1 Spring**

The type of springs must correspond to its original technical specification.

#### **3.4.3.2 Spring pendants**

Original.

#### **3.4.3.3 Shock absorber**

Shock absorbers are free of choice, however the number of shock absorbers, the working principle, and the fasteningpoints must remain identical to its original design. Gas-pressure shock absorbers are to be regarded from the work principle as hydraulic shock absorbers.

Adjustable shock absorbers are forbidden.

#### **3.4.3.4 Level controll**

A serial level control may be inserted while maintaining the original work version.

#### **3.4.3.5 Torsion stick / Stabiliser bar**

Stabiliser must be present in original form and function.

### **3.4.4 Steering**

#### **3.4.4.1 Steering**

The steering stop screws are optional.

### **3.4.5 Brake**

#### **3.4.5.1 Brake**

Vehicles with drum brakes may be reequipped at the front axle with disc brakes.

The serial track width must be kept.

#### **3.4.5.2 Parkingbrake**

The parking brake must be maintained in the original, and in good condition.

It is allowed to move a footoperated parkingbrake-pedal sideways to allow mounting of a 6-point rollcage.

#### **3.4.5.3 Steering brake**

-

### **3.4.6 Wheels**

#### **3.4.6.1 Tyre**

The maximum size of tires is 825 x 275 mm.

Max. depth of the tire pattern is 16 mm, measure point is in the middle of the profile. The maximum of allowed tire types are Mud-terrain-profiles (MT-Profile). Not allowed are competitions tyres like "Alligator", "Bronco Dirt Devil", "Greenway Diamond Back", spikes and chains. The mounting of dual tyres is not permitted. If there are doubts about the profile, the Eurotrial-committee must decide.

(so far refused tires see ANNEX 3.2 and 3.3).

#### **3.4.6.2 Rim**

Only serial motor vehicle type – bounded rim sizes may be used. (Diameter, width, and insertion-depth). Cars that normally are distributed with tires smaller than 205 R 16 or 6.50 / 16 are allowed to use these sizes with rims ET 20-25.

Spare wheels and/or tires can be removed.

#### **3.4.6.3 Wings**

Original.

### **3.4.7 Engine**

#### **3.4.7.1 Engine**

Engine must correspond to it's original technical specification. If there is a defect with the gas control it must be ensured that the engine goes on idling (by a spring at throttle valve shaft).

### **3.4.7.2 Mixture preparation**

If there is a defect with the gas control it must be ensured that the engine goes on idling (e.g.: by a spring at throttle valve shaft).

### **3.4.7.3 Cooling**

Original.

### **3.4.7.4 Fueltank / fuelpipe**

The original tank must be kept in its outer form and in its function **in original place**.

### **7.4.7.5 Exhaust**

After the last serial muffler the exhaust system is free of choice.

## **3.4.8 Drivetrain**

### **3.4.8.1 Gearbox**

Gearboxes and gearbox ratio must correspond to original specifications.

Vehicles with automatic gearboxes must be secured so that the engine only can be started in "Neutral" or "Park".

### **3.4.8.2 Axle/axle ratio**

Axles and axle ratio must correspond to original specifications.

### **3.4.8.3 Diff-lock**

The use of the differential lock and how one handles it for the rear drive axle is free of choice.

Further differential locks are permitted, if these are serial specific locks. The component that makes this work must also be serial specific. The same applies to electronic driving assistance.

### **3.4.8.4 Disconnect of axle / drive system**

The disengagement of drive axles is not permitted, unless it corresponds to the series. Remanufacturing to 2WD Low is not permitted.

## **3.4.9 Electric**

### **3.4.9.1 Battery**

The battery must be securely fastened in its original place.

The positive battery terminal has to be covered to prevent contact to other metal parts.

### **3.4.9.2 Main circuit breaker**

In group O a main circuit breaker is recommended. The main circuit breaker must cut all electrical circuits, battery, alternator or dynamo, lights, ignition, electrical controls, etc. and must also stop the engine. The main circuit breaker must be installed on the drivers side in front of the windshield. It must be reachable from the inside and from the outside. It must have a noticeably marked on/off position.

### **3.4.9.3 Lights**

Tail lights and head lights must correspond to their original form. It is allowed to replace bumpermounted front and rear lights with copies made of plastic or painted metal.

### **3.4.9.4 Electronic support**

It is not allowed to use electronic like radios cameras and sensors

### **3.5 TRIAL GROUP S (STANDARD VEHICLES)**

#### **3.5.1 General information**

Modification of the vehicle is forbidden unless specifically allowed and only permitted changes are allowed. The car must follow the manufacturer's conditions, like EU regulations or main importer regulations. All accessories and all special equipment, which can be supplied with the vehicle purchase, are allowed if no restrictions are present. Older vehicles may be brought up to date, according to their type. Only diesel or standard petrol is allowed as fuel. Beyond this the following regulations apply:

#### **3.5.2 Frame/body**

##### **3.5.2.1 Frame/chassie/wheelbase**

Original.

##### **3.5.2.2 Body**

Original. Parts that are attached/fitted by screws to the body (e.g. bonnet, wings etc.) may be replaced by parts made of plastic or fibreglass, provided they have identical external dimensions.

##### **3.5.2.3 Dimension / Vehicle outline**

The dimensions must correspond to the manufacturer data.

The vehicle outline may not be changed with masking tape or other measures.

##### **3.5.2.4 Window/window frame/mirror**

Windscreen and windscreen frames may not be removed or folded down.

In group S laminated glass, "Lexan" or "Makralon" is recommended. Plexiglas is forbidden.

Windscreens should not have damages, for safety reasons. Should damage occur the windscreen must be approved by technical control.

If the car is outfitted with a roll bar, the windscreen can be removed but the original windscreen frame must remain.

Mirrors of all kinds are allowed.

##### **3.5.2.5 Body lift**

Bodylift is permitted with a maximum height of 50mm. This must be rigid.

##### **3.5.2.6 Bumper**

Bumpers and bumper mounting plates may be removed. It may be exchanged by other nonserial bumpers, however the form is not allowed to be moulded or shapped to the vehicle. The material must be rigid and firm. Material thickness is free of will: Cover plates (or similar material) between body and frame are forbidden.

##### **3.5.2.7 Floor / firewall / transmissiontunnel**

Original.

Its allowed to make new hole for gearlever in transmissiontunnel when changing gearbox, otherwise no change.

##### **3.5.2.8 Passenger area**

### 3.5.2.9 Seats

The seats of the passengers must be firmly embedded, seats must have head rests.

**Its allowed to change seats into seats ment for racing with possibilities for 4 point harnes**

### 3.5.2.10 Harnes

Harness must have at least 3-point mounting.

**Harness of type 4-point belts or so-called suspender belts (y-belts) or more are recommended**

The passengers must be buckled at all time in the section. The belt system used is to be put on according to its regulation and may not be manipulated. Electric lockable belt-systems are allowed and must function.

Vehicles with active airbag or belt restrain systems must be marked at both doors with the "Airbag"-symbol.

### 3.5.2.11 Rollcage

~~At least one overall bar is prescribed for open vehicles. This has to look as follows: B-bar, backstays and diagonal member 3.2.4.5. This bar is also recommended for all other vehicles of this group.~~

~~For cars with free standing windshield frame a six point rollcage is mandatory.~~

~~This must consist of a Basic structure according to 3.2.4.4, backstays, diagonal member 3.2.4.5 and roof reinforcement 3.2.4.6.~~

~~Serial existing over roll bars may not be changed. The Original B-bar of the Suzuki SJ / Samurai is not accepted as a rollbar. Original tubing handles may be renewed while maintaining the original external dimensions.~~

~~Vehicles without rollover bars must install later such a mechanism.~~

~~See 3.2.4 for more info.~~

**In the group S a sixpoint rollcage is mandatory. The rollcage must consist of a Basic structure according to 3.2.4.4, backstays, diagonal member 3.2.4.5 and roof reinforcement 3.2.4.6.**

**See 3.2.4 for more info.**

### 3.5.2.12 Protective netting /Armstraps

Recommended but not necessary.

### 3.5.2.13 Body attachment

Hardtop, tarpaulin with linkages inclusive all locked mounting plates, rear flap, rear seats, spare wheel, spare wheel handle, mirror and mirror handle , side and back windows, side turn signals, door handles and door upper sections may be removed. (door lower part must be present).

Original doors can be changed to half-doors. Definition for half doors: There must be a cover available, which prevents feet or legs from falling out when the vehicle is tilted. This cover must have at least the height of the belt line of the vehicle. In addition the cover must have at least the height of the highest point of the unloaded seat. The cover can consist of e.g. sheet metal, wood, lattice, etc. The cover/half door can be made to be opened.

### 3.5.2.14 Fluid tubes

A protection of the fluid tubes for the fuel -, oil-, and brake hoses outside of the body must be provided against damages. (stones, corrosion, mechanical breaks etc..). Inside the body the tubes must be protected from any fire risk. If the series arrangement is maintained, no additional protection is necessary. If no serial tank is used there must be an anti-return valve inside the breather.

### 3.5.2.15 Towing eye/hook

There must be either one towing eye or hook in the front and in the back with an inside diameter of at least 50 mm. They must be firmly embodied, easily accessible and have to be painted red, yellow or orange, so that the body of the vehicle contrast with the towing eye/hook.

### 3.5.2.16 Undershield

Undershield is optional.

## 3.5.3 Suspension

### 3.5.3.1 Spring

The use of springs is free of choice considering the type of spring (e.g. coil spring, pneumatic shock absorber system, laminated spring or torsion spring). The location for the mounting point of the laminated spring is free of will.

### **3.5.3.2 Spring pendants**

Longer spring pendants are permitted.

### **3.5.3.3 Shock absorber**

Shock absorbers are free of choice, however the number of shock absorbers, the working principle, and the fastening points must remain identical to its original design. Gas-pressure shock absorbers are to be regarded from the work principle as hydraulic shock absorbers.

Adjustable shock absorbers are forbidden.

### **3.5.3.4 Level control**

A serial level control may be inserted while maintaining the original work version.

### **3.5.3.5 Torsion stick / Stabiliser bar**

Stabiliser bar may be disconnected or removed, otherwise original.

## **3.5.4 Steering**

### **3.5.4.1 Steering**

The steering stop screws are optional. Power steering is optional.

## **3.5.5 Brake**

### **3.5.5.1 Brake**

Vehicles with drum brakes may be reequipped at the front axle with disc brakes.

### **3.5.5.2 Parkingbrake**

The parking brake must be maintained in the original, and in good condition.

It is allowed to move a footoperated parkingbrake-pedal sideways to allow mounting of a 6-point rollcage.

### **3.5.5.3 Steering brake**

-

## **3.5.6 Wheels**

### **3.5.6.1 Tyre**

The maximum size of tyres is 900 x 320 mm.

Max. depth of the tire pattern is 20 mm, measure point is in the middle of the profile.

With remoulded tires the tread depth may be maximally 20 mm, measure point is in the middle of the profile.

The maximum of allowed tire types are Mud-terrain-profiles (MT-The use of competition tires like nops, "alligator", "Super-cross", chains, spikes or tires of other means are not allowed. The mounting of dual tires is not permitted. If there are doubts about the profile, the Eurotrial-committee must decide. The recutting of the tires-profile is not allowed.

(so far refused tires see ANNEX 3.3).

### **3.5.6.2 Rim**

Free of choice. Maximum 18". (diameter, wideness and insertion depth).

Track widening/wheel spacers are allowed.

### **3.5.6.3 Wings**

The tire track (profile area) must not go beyond the wings in vertical line. If this is not the case, this can be achieved in form of flared wings. The material of the flared wings must consist of solid and not transparent material.

## **3.5.7 Engine**

### **3.5.7.1 Engine**

Only 4-cylinder engines can be changed to an other 4-cylinder engine (manufacturer is not restricted) Additional tuning is free of will, but no supplementary additions (Compressor, turbo, NOX-injection, etc)...

If there is a defect with the gas control it must be ensured that the engine goes on idling (by a spring at throttle valve shaft).

### **3.5.7.2 Mixture preparation**

If there is a defect with the gas control it must be ensured that the engine goes on idling (e.g.: by a spring at throttle valve shaft).

### **3.5.7.3 Cooling**

Free of choice, but the radiator must maintain in its original place in the engine bay.

### **3.5.7.4 Fueltank / fuelpipe**

The fuel tank is free of choice. It must be firmly joined in a sufficiently protected position and installed to the vehicle. It must not be in the passenger compartment. The fuel tank must be separated from the passenger compartment by a fireproof guard. The fuel tank has to be leak proof in any position of the car or the fuel tank.

### **3.5.7.5 Exhaust**

The Exhaust opening from the side or from above must be behind the middle of the wheelbase. Exhaust pipes may not exceed laterally over the body. They may end to the side or to the rear maximally 100 mm before the outer outline of the vehicle. Noise limitation: The volume of the exhaust system may reach max. 98+2 decibel (DMSB near field measuring method)

## **3.5.8 Drivetrain**

### **3.5.8.1 Gearbox**

Gearbox, transference and gearbox ratios are optional. The drive system (permanent or disengageable) may not be changed. Vehicles with automatic gearboxes must be secured so that the engine only can be started in "Neutral" or "Park".

### **3.5.8.2 Axle/axle ratio**

Axles must correspond to original. Axle ration is optional.

### **3.5.8.3 Diff-lock**

Optional for both rear and front axle.

### **3.5.8.4 Disconnect of axle / drive system**

The disengagement of drive axles is not permitted, unless it corresponds to the series. Remanufacturing to 2WD Low is not permitted.

## **3.5.9 Electric**

### **3.5.9.1 Battery**

The battery must be securely fastened in its original place.

The positive battery terminal has to be covered to prevent contact to other metal parts.

### **3.5.9.2 Main circuit breaker**

In group S a main circuit breaker is recommended. The main circuit breaker must cut all electrical circuits, battery, alternator or dynamo, lights, ignition, electrical controls, etc. and must also stop the engine. The main circuit breaker must be installed on the drivers side in front of the windshield. It must be reachable from the inside and from the outside. It must have a noticeably marked on/off position.

### **3.5.9.3 Lights**

The choice of tail lights and head lights is optional.

From 2012 this will apply:

It is mandatory to keep the appearance of original headlights in the front of the vehicle. Either by using original lights or they can be painted, printed or made as a sticker.

### **3.5.9.4 Electronic support**

It is not allowed to use electronic support like radios, cameras and sensors.

## **3.6 TRIAL GROUP M "MODIFIED" (IMPROVED SERIES VEHICLES)**

### **3.6.1 General information**

Change on the vehicle is forbidden unless specifically allowed and only the permitted changes are allowed. The car must follow the manufacturer's conditions, like EU regulations or main importer regulations. All accessories and all special equipment, which can be supplied with the vehicle purchase, is allowed if no restrictions are

present. Older vehicles may be brought up to date, according to its type. Only diesel or ordinary petrol is allowed as fuel. Beyond this the following regulations apply:

### **3.6.2 Frame/body**

#### **3.6.2.1 Frame/chassis/wheelbase**

The chassis must be kept to its dimensions, only the bumper-mounting-plates can be removed or cut. The wheel base can not be changed. The original wheelbase and the original position of the axles must be kept.

#### **3.6.2.2 Body**

The body above the beltline can be modified. Belt line is defined as follows: In front the line of the bonnet. For open vehicles back and side, the side above the wall. For closed vehicles, if no open version exists, the bottom edge of the side window, and the back window. Exception: under the belt line the wheel arch can be cut in the same profile of the body, max. 100 mm to accept bigger wheels. The doorsill cover may be reduced by 100mm but a maximum up to the doorsill beam.

Parts that are attached/fitted by screws to the body (e.g. bonnet, wings etc.) may be replaced by parts made of plastic or fibreglass, provided they have identical external dimensions. **Inner front wings can be removed**

#### **3.6.2.3 Dimension / Vehicle outline**

The dimensions must correspond to the manufacturer data.

The vehicle outline may not be changed with masking tape or other measures.

#### **3.6.2.4 Window/window frame/mirror**

The windscreen and the windscreen frame including its fastening parts may be removed.

In case a windscreen is used in group M it must consist of laminated glass, "Lexan" or "Makralon". Plexiglas is forbidden. Windscreens should not have damages, for safety reasons. Should damage occur the windscreen must be approved by technical control.

Mirrors of all kinds are allowed.

#### **3.6.2.5 Body lift**

Bodylift is permitted. This must be rigid.

#### **3.6.2.6 Bumper**

Bumpers and bumper mounting plates may be removed. It may be exchanged by other nonserial bumpers, however the form is not allowed to be moulded or shaped to the vehicle. The material must be rigid and firm. Material thickness is optional: Cover plates (or similar material) between body and frame are forbidden.

#### **3.6.2.7 Floor / firewall / transmissiontunnel**

A floor plate made out of minimum 2mm thick Aluminium or 1 mm thick steel has to be installed in case the original floor plate is not existing. Removal or replacement of the firewall is not allowed.

Changes at the transmission tunnel are allowed.

#### **3.6.2.8 Passenger area**

A protective wall must be present to protect driver and co-driver from engine, oil cooler, radiator and to prevent fire or fluid from spreading into the passenger area.

#### **3.6.2.9 Seats**

The seats of the passengers must be firmly embedded, seats must have head rests.

#### **3.6.2.10 Harness**

Harness must at least be of type 4-point belts or so-called suspender belts (y-belts) or more.

The passengers must be buckled at all time in the section. The belt system used is to be put on according to its regulation and may not be manipulated. Electric lockable belt-systems are allowed and must function. Vehicles with active airbag or belt restrain systems must be marked at both doors with the "Airbag"-symbol.

#### **3.6.2.11 Rollcage**

In the group M a sixpoint rollcage is mandatory. The rollcage must consist of a Basic structure according to 3.2.4.4, backstays, diagonal member 3.2.4.5 and roof reinforcement 3.2.4.6.

See 3.2.4 for more info.

### **3.6.2.12 Protective netting /Armstraps**

~~Recommended but not necessary.~~

**Nets or armstraps must be used, net must cover the door/window area so the arm/hand cannot come outside the car, arm straps the same, if arm straps is used it must open together with seatbelt**

### **3.6.2.13 Body attachment**

Hardtop, tarpaulin with linkages inclusive all locked mounting plates, rear flap, rear seats, spare wheel, spare wheel handle, mirror and mirror handle, side and back windows, side turn signals, door handles and door upper sections may be removed. (door lower part must be present).

Original doors can be changed to half-doors. Definition for half doors: There must be a cover available, which prevents feet or legs from falling out when the vehicle is tilted. This cover must have at least the height of the belt line of the vehicle. In addition the cover must have at least the height of the highest point of the unloaded seat. The cover can consist of e.g. sheet metal, wood, lattice, etc. The cover/half door can be made to be opened.

### **3.6.2.14 Fluid tubes**

A protection of the fluid tubes for the fuel -, oil-, and brake hoses outside of the body must be provided against damages. (stones, corrosion, mechanical breaks etc..). Inside the body the tubes must be protected from any fire risk. If the series arrangement is maintained, no additional protection is necessary. If no serial tank is used there must be an anti-return valve inside the breather.

### **3.6.2.15 Towing eye/hook**

There must be either one towing eye or hook in the front and in the back with an inside diameter of at least 50 mm. They must be firmly embodied, easily accessible and have to be painted red, yellow or orange, so that the body of the vehicle contrast with the towing eye/hook.

### **3.6.2.16 Undershield**

Undershield is optional.

## **3.6.3 Suspension**

### **3.6.3.1 Spring**

~~The use of springs is optional considering the type of spring (e.g. coil spring, pneumatic shock absorber system, laminated spring or torsion spring). The place of fixing the shackles is optional.~~

**The fastening points of the springs must be kept, It is allowed to change the position of shakles, ex: cars with shackles in front of the leaf spring can change to shackle in the back of the leaf spring and otherwise.**

The original wheelbase and the original position of the axles must be kept. The wheel suspension may be changed, the type of the wheel suspension (e.g.: life axle, independent suspension) must be maintained. "Spring over axles" is allowed, reequip to portal axles is forbidden.

### **3.6.3.2 Spring pendants**

Longer spring pendants are permitted.

### **3.6.3.3 Shock absorber**

Shock absorbers are optional, however the number of shock absorbers, the working principle, and their position in the car must be kept – meaning their position and angle against the body or body frame. The original fastening spots on the body may be extended, but the shock absorbers must be kept in the original position and angle against the the body. Fastening spots on the axles are optional, but must be kept in the original position and angle of shock absorbers against the body. The fastening principle is optional (screw or eye). Gas-pressure shock absorbers are to be regarded from the work principle as hydraulic shock absorbers. Adjustable shock absorbers are forbidden.

### **3.6.3.4 Level controll**

A serial level control may be inserted while maintaining the original work version.

### **3.6.3.5 Torsion stick / Stabiliser bar**

Optional. For every axle are two torsion sticks allowed.

## **3.6.4 Steering**

### **3.6.4.1 Steering**

The steering stop screws are optional. Power steering is optional.

### **3.6.5 Brake**

#### **3.6.5.1 Brake**

The brake assembly is optional. The braking force distribution at an axle must be equal. The serial braking force distribution between both axles must not be changed.

#### **3.6.5.2 Parkingbrake**

A well functional parking brake must be present, engaging the brakes of the rear-axle, or the driveshaft of the rear-axle. The control system of the parking brake can be operated hydraulically or mechanically, and it must be mechanically independent of the main system.

#### **3.6.5.3 Steering brake**

Single wheel brakes or single axle brakes are forbidden.

### **3.6.6 Wheels**

#### **3.6.6.1 Tyre**

Agricultural tractor profiles, spikes, chains and dual tires are not permitted, otherwise tyres is optional.

#### **3.6.6.2 Rim**

Optional. Maximum diameter 18". Track widening/wheel spacers are allowed.

#### **3.6.6.3 Wings**

1/3 of the tire track (profile area) must be covered with a wing. If this is not the case, this can be achieved in form of flared wings. The wing must cover the tyre from the sill and 120 degrees of the tyre radius. The material of the flared wings must consist of solid and not transparent material.

### **3.6.7 Engine**

#### **3.6.7.1 Engine**

Optional.

#### **3.6.7.2 Mixture preparation**

If there is a defect with the gas control it must be ensured that the engine goes on idling (e.g.: by a spring at throttle valve shaft).

#### **3.6.7.3 Cooling**

Optional. Radiator must not be placed in the passenger area. If the radiator is placed behind the passenger area, it must be covered with protective walls to prevent hot water from reaching driver/codriver at any angle. Even if the car has rolled over. The radiator, waterhoses and waterpipes should be securely fastened, and if water pipes and hoses go through the passenger area, they must be well protected to prevent the driver and codriver from scalding or burning.

#### **3.6.7.4 Fueltank / fuelpipe**

The fuel tank is optional. Fuel tank of racing type is recommended. It must be firmly joined in a sufficiently protected position and installed to the vehicle. It must not be in the passenger compartment. The fuel tank must be separated from the passenger compartment by a fireproof guard. The fuel tank has to be leak proof in any position of the car or the fuel tank.

#### **3.6.7.5 Exhaust**

The Exhaust opening from the side or from above must be behind the middle of the wheelbase. Exhaust pipes may not exceed laterally over the body. They may end to the side or to the rear maximally 100 mm before the outer outline of the vehicle. Noise limitation: The volume of the exhaust system may reach max. 98+2 decibel (DMSB near field measuring method)

### **3.6.8 Drivetrain**

#### **3.6.8.1 Gearbox**

Gearbox, transercase and gearbox ratios are optional. The use of differential lock in transercase are optional. The drive system (permanent or disengageable) may not be changed.

Vehicles with automatic gearboxes must be secured so that the engine only can be started in "Neutral" or "Park".

### **3.6.8.2 Axle/axle ratio**

The axles can be changed but must be of the same type as the original axles (e.g. Straight axles, Portal axles). Axle ration is optional .

### **3.6.8.3 Diff-lock**

Optional for both rear and front axle.

### **3.6.8.4 Disconnect of axle / drive system**

The disengagement of the power transmission of individual wheels or drive axles is not permitted, unless it corresponds to the series. Remanufacturing to 2WD Low is not permitted.

## **3.6.9 Electric**

### **3.6.9.1 Battery**

Optional. Electrical cables should be well protected.

The positive battery terminal has to be covered to prevent contact to other metal parts.

### **3.6.9.2 Main circuit breaker**

A main circuit breaker is valid. The main circuit breaker must cut all electrical circuits, battery, alternator or dynamo, lights, ignition, electrical controls, etc. and must also stop the engine. The main circuit breaker must be installed on the drivers side in front of the windshield. It must be reachable from the inside and from the outside. It must have a noticeably marked on/off position.

### **3.6.9.3 Lights**

The choice of tail lights and head lights is optional.

From 2012 this will apply:

It is mandatory to keep the appearance of original headlights in the front of the vehicle. Either by using original lights or they can be painted, printed or made as a sticker.

### **3.6.9.4 Electronic support**

It is not allowed to use electronic support like radios, cameras and sensors.

## **3.7 TRIAL GROUP PM “PROMODIFIED”**

### **3.7.1 General information**

vehicles should have 2 axles and 4wd. The vehicles body must be easy identified as a serial produced vehicle. Before the registration 2010 every PM-driver must take 4 pictures at all sides and send to the a mail address specified in the invitation. The driver must also document which type of the donor car body he or she used. It's for the simply definition wide and view of the car. The construction of the chassis is free. Use of equipment that are not written in this rules and that will make the vehicle more competitive is forbidden. Only diesel or ordinary petrol is allowed as fuel. Beyond this the following regulations apply:

### **3.7.2 Frame/body**

#### **3.7.2.1 Frame/chassie/wheelbase**

Optional.

#### **3.7.2.2 Body**

The body must be easy identified as a serial produced car. Bonnet, body sides, wings front and rear must be present.

The body work must be recognisable as a serial car. The body must cover for the complete wheelbase, that means from front axle to rear axle. Front, bonnet (hood), front wings, body sides, rear wings must be present. The body is optional from the rear axle up to the end of the vehicle. Body material is optional. The front of the car must retain the original mask or face, and even if it is shortened or widened given the appearance of the donar vehicle.

**From 2012 this will apply:**

**The body work must look like a car, , bonnet (hood), front wings, body sides, rear wings must be present.**

**Body material is optional. The front of the car must retain a mask or face with appearance og lights**

**For dimensions se point 3.7.2.3,**

### 3.7.2.3 Dimension / Vehicle outline

~~The body has to come up to a body for the complete wheelbase, that means from front axle to rear axle. From 2012 this will apply:~~

~~Same width as the donor body, or wider. If the body is smaller than the inner width of the tyres in a vertical line, there has to be a flared wing to fill up the area between body and tyres inside.~~

**From 2012 this will apply:**

**The body has to be minimum from middle of front axle to the middle of rear axle, and from the inside wheels of right side to inside wheels of left side see drawing**

**Its not allowed to make attachment to the body just to make it wider or longer**

**Single seaters is not allowed, two seats side by side should be fit inside the body.**

**The body has to be minimum the allowed size from the bottom of the body to at least the beltline**

**See sketch**



### 3.7.2.4 Window/window frame/mirror

The windscreen and the windscreen frame including its fastening parts may be removed.

In case a windscreen is used it must consist of laminated glass, Lexan/Polycarbonat or Makralon. Plexiglas is forbidden. Windscreens should not have damages, for safety reasons. Should damage occur the windscreen must be approved by technical control.

Mirrors of all kinds are allowed.

### 3.7.2.5 Body lift

Bodylift is permitted. This must be rigid.

### 3.7.2.6 Bumper

Optional.

### 3.7.2.7 Floor / firewall / transmissiontunnel

A floor plate made out of minimum 2mm thick Aluminium or 1 mm thick steel has to be installed in case the original floor plate is not existing. Changes of the firewall and the transmission tunnel are allowed.

### 3.7.2.8 Passenger area

A protective wall must be present to protect driver and co-driver from engine, oil cooler, radiator and to prevent fire or fluid from spreading into the passenger area.

### 3.7.2.9 Seats

Seats mend for racing with possibilities for 4 point harness is prescribed.

If the seat is adjustable it should have a locking device at both sides.

### 3.7.2.10 Harness

Harness must at least be of type 4-point belts or so-called suspender belts (y-belts) or more. The passengers must be buckled at all time in the section. The belt system used is to be put on according to its regulation and may not be manipulated. Electric lockable belt-systems are allowed and must function. Vehicles with active airbag or belt restrain systems must be marked at both doors with the "Airbag"-symbol.

### **3.7.2.11 Rollcage**

In the group Pm a Sixpoint rollcage is mandatory. The rollcage must consist of a Basic structure according to 3.2.4.4, backstays, diagonal member 3.2.4.5 and roof reinforcement 3.2.4.6.

### **3.7.2.12 Protective netting / Armstraps**

~~Recommended but not necessary.~~

**Nets or armstraps must be used, net must cover the door/window area so the arm/hand cannot come outside the car, arm straps the same, if arm straps is used it must open together with seatbelt**

### **3.7.2.13 Body attachment**

Hardtop, tarpaulin with linkages inclusive all locked mounting plates, rear flap, rear seats, spare wheel, spare wheel handle, mirror and mirror handle, side and back windows, side turn signals, door handles and doors may be removed.

### **3.7.2.14 Fluid tubes**

A protection of the fluid tubes for the fuel -, oil-, and brake hoses outside of the body must be provided against damages. (stones, corrosion, mechanical breaks etc..). Inside the body the tubes must be protected from any fire risk. If the series arrangement is maintained, no additional protection is necessary. If no serial tank is used there must be an anti-return valve inside the breather.

### **3.7.2.15 Towing eye/hook**

There must be either one towing eye or hook in the front and in the back with an inside diameter of at least 50 mm. They must be firmly embodied, easily accessible and have to be painted red, yellow or orange, so that the body of the vehicle contrast with the towing eye/hook.

### **3.7.2.16 Undershield**

Undershield is optional.

## **3.7.3 Suspension**

### **3.7.3.1 Spring**

Active suspensions, hydraulic or air are forbidden, otherwise optional.

### **3.7.3.2 Spring pendants**

Longer spring pendants are permitted.

### **3.7.3.3 Shock absorber**

Optional. Air shocks allowed.

### **3.7.3.4 Level controll**

Not allowed.

### **3.7.3.5 Torsion stick / Stabiliser bar**

Optional.

## **3.7.4 Steering**

### **3.7.4.1 Steering**

Rear-wheelsteering or frame-steering is not allowed, otherwise optional. Only the driver are allowed to steer the vehicle in a section.

## **3.7.5 Brake**

### **3.7.5.1 Brake**

The brake assembly is optional, but there must be at least one brake at each wheel.

The braking force distribution for parking brakes or operating brakes at an axles must be equal.

The serial braking force distribution between both axles must not be changed. Brake hoses or brake tubes have to be protected thoroughly.

Single wheel brakes are allowed.

### **3.7.5.2 Parkingbrake**

A well functional parking brake must be present, engaging the brakes of the rear-axle, or the driveshaft of the rear-axle. The control system of the parking brake can be operated hydraulically or mechanically, and it must be mechanically independent of the main system.

### **3.7.5.3 Steering brake**

Optional. Only the driver are allowed to operate the steering brakes.

## **3.7.6 Wheels**

### **3.7.6.1 Tyre**

Rubber tyres filled with air, otherwise optional. The maximum height of tyres is 1000mm. Spikes, chains and dual tires are not permitted.

### **3.7.6.2 Rim**

Optional. Track widening/wheel spacers are allowed.

### **3.7.6.2 Wings**

1/3 of the tire track (profile area) must be covered with a wing. If this is not the case, this can be achieved in form of flared wings. The wing must cover the tyre from the sill and 90 degrees of the tyres radius.

The material of the flared wings must be made out of solid and not transparent material.

~~From 2012 this will apply:~~

~~If the body is smaller than the inner width of the tyres in a vertical line, there has to be a flared wing to fill up the area between body and tyres inside.~~

## **3.7.7 Engine**

### **3.7.7.1 Engine**

Optional.

### **3.7.7.2 Mixture preparation**

If there is a defect with the gas control it must be ensured that the engine goes on idling (e.g.: by a spring at throttle valve shaft).

### **3.7.7.3 Cooling**

Optional. Radiator must not be placed in the passenger area. If the radiator is placed behind the passenger area, it must be covered with protective walls to prevent hot water from reaching driver/codriver at any angle. Even if the car has rolled over. The radiator, waterhoses and waterpipes should be securely fastened, and if water pipes and hoses go through the passenger area, they must be well protected to prevent the driver and codriver from scalding or burning.

### **3.7.7.4 Fueltank / fuelpipe**

The fuel tank is optional. Fuel tank of racing type is recommended. It must be firmly joined in a sufficiently protected position and installed to the vehicle. It must not be in the passenger compartment. The fuel tank must be separated from the passenger compartment by a fireproof guard. The fuel tank has to be leak proof in any position of the car or the fuel tank.

### **3.7.7.5 Exhaust**

Optional, but the exhaust opening from the side or from above must be behind the middle of the wheelbase. Exhaust pipes may not exceed laterally over the body. They may end to the side or to the rear maximally 100 mm before the outer outline of the vehicle. Noise limitation: The volume of the exhaust system may reach max. 98+2 decibel (DMSB near field measuring method)

## **3.7.8 Drivetrain**

### **3.7.8.1 Gearbox**

Optional, but no "Hydrostat engines".

Vehicles with automatic gearboxes must be secured so that the engine only can be started in "Neutral" or "Park".

### **3.7.8.2 Axle/axle ratio**

Optional.

### **3.7.8.3 Diff-lock**

Optional.

### **3.7.8.4 Disconnect of axle / drive system**

Optional.

## **3.7.9 Electric**

### **3.7.9.1 Battery**

Optional. Electrical cables should be well protected.

The positive battery terminal has to be covered to prevent contact to other metal parts.

### **3.7.9.2 Main circuit breaker**

A main circuit breaker is valid. The main circuit breaker must cut all electrical circuits, battery, alternator or dynamo, lights, ignition, electrical controls, etc. and must also stop the engine. The main circuit breaker must be installed on the drivers side in front of the windshield. It must be reachable from the inside and from the outside. It must have a noticeably marked on/off position.

### **3.7.9.3 Lights**

The choice of tail lights and head lights is optional.

From 2012 this will apply:

It is mandatory to keep the appearance of original headlights in the front of the vehicle. Either by using original lights or they can be painted, printed or made as a sticker.

### **3.7.9.4 Electronic support**

It is not allowed to use electronic support like radios, cameras and sensors.

## **3.8 TRIAL GROUP P “PROTOTYPE“**

### **3.8.1 General information**

Only vehicles with four-wheel drive, two axles and four air pressured tires are entitled to take part. A vehicle, whose construction seems to have certain dangers, can be excluded from the participation. Only diesel or ordinary petrol is allowed as fuel. Beyond this the following regulations apply:

### **3.8.2 Frame/body**

#### **3.8.2.1 Frame/chassie/wheelbase**

Optional.

#### **3.8.2.2 Body**

The body must be of impeccable construction and must not present provisory elements. It may not have sharp edges and must offer a sufficient protection to the passengers. All rotary parts of the motor and propulsion shaft must be sufficiently protected. A protective wall must be present to protect driver and co-driver from engine, oil cooler, radiator and to prevent fire or fluid from spreading into the passenger area.

#### **3.8.2.3 Dimension / Vehicle outline**

Optional.

#### **3.8.2.4 Window/window frame/mirror**

The windscreen and the windscreen frame including its fastening parts may be removed.

In case a windscreen is used it must consist of laminated glass, Lexan/Polycarbonat or Makralon. Plexiglas is forbidden. Windscreens should not have damages, for safety reasons. Should damage occur the windscreen must be approved by technical control.

Mirrors of all kinds are allowed.

#### **3.8.2.5 Body lift**

Bodylift is permitted. This must be rigid.

#### **3.8.2.6 Bumper**

Optional.

### **3.8.2.7 Floor / firewall / transmission tunnel**

A floor plate made out of minimum 2mm thick Aluminium or 1 mm thick steel has to be installed in case the original floor plate is not existing. Changes of the firewall and the transmission tunnel are allowed.

### **3.8.2.8 Passenger area**

A protective wall must be present to protect driver and co-driver from engine, oil cooler, radiator and to prevent fire or fluid from spreading into the passenger area.

### **3.8.2.9 Seats**

The number of seats is optional. For the passengers a sufficient head restraint must be available. Seats mend for racing with possibilities for 4 point harness is prescribed. If the seat is adjustable it should have a locking device at both sides.

### **3.8.2.10 Harness**

Harness must at least be of type 4-point belts or so-called suspender belts (y-belts) or more. The passengers must be buckled at all time in the section. The belt system used is to be put on according to its regulation and may not be manipulated. Electric lockable belt-systems are allowed and must function. Vehicles with active airbag or belt restrain systems must be marked at both doors with the "Airbag"-symbol.

### **3.8.2.11 Rollcage**

In the group P a sixpoint rollcage is mandatory. The rollcage must consist of a Basic structure according to 3.2.4.4, backstays, diagonal member 3.2.4.5 and roof reinforcement 3.2.4.6.

### **3.8.2.12 Protective netting / Arm straps**

~~Recommended but not necessary.~~

**Nets or armstraps must be used, net must cover the door/window area so the arm/hand cannot come outside the car, arm straps the same, if arm straps is used it must open together with seatbelt**

### **3.8.2.13 Body attachment**

Hardtop, tarpaulin with linkages inclusive all locked mounting plates, rear flap, rear seats, spare wheel, spare wheel handle, mirror and mirror handle, side and back windows, side turn signals, door handles and doors may be removed.

### **3.8.2.14 Fluid tubes**

A protection of the fluid tubes for the fuel -, oil-, and brake hoses outside of the body must be provided against damages. (stones, corrosion, mechanical breaks etc..). Inside the body the tubes must be protected from any fire risk. If the series arrangement is maintained, no additional protection is necessary. If no serial tank is used there must be an anti-return valve inside the breather.

### **3.8.2.15 Towing eye/hook**

There must be either one towing eye or hook in the front and in the back with an inside diameter of at least 50 mm. They must be firmly embodied, easily accessible and have to be painted red, yellow or orange, so that the body of the vehicle contrast with the towing eye/hook.

### **3.8.2.16 Undershield**

Undershield is optional.

## **3.8.3 Suspension**

### **3.8.3.1 Spring**

Optional. The vehicles must be fitted with spring axles. A rigid connection with the chassis is forbidden.

### **3.8.3.2 Spring pendants**

Longer spring pendants are permitted.

### **3.8.3.3 Shock absorber**

Optional.

### **3.8.3.4 Level controll**

Optional.

### **3.8.3.5 Torsion stick / Stabiliser bar**

Optional.

## **3.8.4 Steering**

### **3.8.4.1 Steering**

Frame-steering is not allowed, otherwise optional. **Only the driver is allowed to steer the vehicle in a section.**

## **3.8.5 Brake**

### **3.8.5.1 Brake**

The brake assembly is optional, but there must be at least one brake at each wheel.

The braking force distribution for parking brakes or operating brakes at an axles must be equal. Brake hoses and brake tubes have to be protected thoroughly.

Single wheel brakes are allowed.

### **3.8.5.2 Parkingbrake**

A well functional parking brake must be present, operating on the brakes of one and the same axle, or the driveshaft to one axle. The control system of the parking brake can be operated hydraulically or mechanically, and it must be mechanically independent of the main system.

### **3.8.5.3 Steering brake**

Optional. Only the driver are allowed to operate the steering brakes.

## **3.8.6 Wheels**

### **3.8.6.1 Tyre**

Rubber tyres filled with air, otherwise optional. The maximum height of tyres is 1250mm. Spikes, chains and dual tires are not permitted.

### **3.8.6.2 Rim**

Optional. Track widening/wheel spacers are allowed.

### **3.8.6.3 Wings**

-

## **3.8.7 Engine**

### **3.8.7.1 Engine**

Optional.

### **3.8.7.2 Mixture preparation**

If there is a defect with the gas control it must be ensured that the engine goes on idling (e.g.: by a spring at throttle valve shaft).

### **3.8.7.3 Cooling**

Optional.

Radiator must not be placed in the passenger area. If the radiator is placed behind the passenger area, it must be covered with protective walls to prevent hot water from reaching driver/codriver at any angle. Even if the car has rolled over. The radiator, waterhoses and waterpipes should be securely fastened, and if water pipes and hoses go through the passenger area, they must be well protected to prevent the driver and codriver from scalding or burning.

### **3.8.7.4 Fueltank / fuelpipe**

The fuel tank is optional. Fuel tank of racing type is recommended. It must be firmly joined in a sufficiently protected position and installed to the vehicle. It must not be in the passenger compartment. The fuel tank must be separated from the passenger compartment by a fireproof guard. The fuel tank has to be leak proof in any position of the car or the fuel tank.

### **3.8.7.5 Exhaust**

Optional, but the exhaust opening from the side or from above must be behind the middle of the wheelbase. Exhaust pipes may not exceed laterally over the body. They may end to the side or to the rear maximally 100 mm before the outer outline of the vehicle. Noise limitation: The volume of the exhaust system may reach max. 98+2 decibel (DMSB near field measuring method)

### **3.8.8 Drivetrain**

#### **3.8.8.1 Gearbox**

Optional, but no “Hydrostat engines”.

Vehicles with automatic gearboxes must be secured so that the engine only can be started in “Neutral” or “Park”.

#### **3.8.8.2 Axle/axle ratio**

Optional.

#### **3.8.8.3 Diff-lock**

Optional.

#### **3.8.8.4 Disconnect of axle / drive system**

Optional.

### **3.8.9 Electric**

#### **3.8.9.1 Battery**

Optional. Electrical cables should be well protected.

The positive battery terminal has to be covered to prevent contact to other metal parts.

#### **3.8.9.2 Main circuit breaker**

A main circuit breaker is valid. The main circuit breaker must cut all electrical circuits, battery, alternator or dynamo, lights, ignition, electrical controls, etc. and must also stop the engine. The main circuit breaker must be installed on the drivers side in front of the windshield. It must be reachable from the inside and from the outside. It must have a noticeably marked on/off position.

#### **3.8.9.3 Lights**

The choice of tail lights and head lights is optional.

#### **3.8.9.4 Electronic support**

It is not allowed to use electronic support like radios, cameras and sensors.