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

Note: The purpose of this group is to have regular 4x4 cars (suzukis, jeeps etc.) with near stock body's and upgraded engines, axles and suspensions. The current change in the rules should allow cars with IFS axles also to be able to participate in the competition and the current cars (mostly leaf sprung) to be more up to date. The modification therefore should have some boundaries and will not come more towards PM in future and keep car build budget reasonable.

3.6.1 General information

Change on 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, is allowed if no restrictions are present.
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

Original. Fittings for engine, gearbox, transfer box, Axles, torsion Sticks, radius Arms, Springs, Shock Absorbers and brackets for exhaust systems may be re-/moved or modified, otherwise no changes is allowed. Bumper-mounting-plates can be removed or cut. If the Car was built with a self-supporting body (unibody/monocoque), the "frame" or sub-frame parts must be kept in original Dimensions and Positions.

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. For flat-fender vehicles (like Jeep Willys, Jeep Wrangler etc.) the front fenders can be raised and/or cut by max. 100mm in all.
The doorsill cover may be reduced by 100mm but a maximum up to the doorsill beam.
The rear corner behind the rear wheels may be reduced max 100mm, or up to the floor and max 100mm in from the side.
Parts that are attached/fitted by screws to the body (e.g. bonnet, wings etc.) may be replaced by parts made of plastic or fiberglass, provided they have identical external dimensions. Inner front wings can be removed. For vehicles with self-supporting body a new supporting structure has to be welded in place. Internal brackets etc. can be removed.
Body protection is allowed and holes/notches can be made in bonnet/wings/fenders etc. to attach such protection.

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 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

Body lift 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 non-serial 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 is forbidden.

3.6.2.7 Floor / firewall / transmission tunnel Floor and firewall must be present and in original place and material. ~~Fewer modifications is allowed.~~ Holes and/or minor modifications to accommodate for hoses, pipes, cables, exhaust etc are 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 for the driver/co-driver must be well secured. Seats must have head restraints that covers at least 2/3 height of the helmet. Co-driver's seat must be present. Its allowed to replace the original seats with racing seats with the possibility for 4-point harness.

3.6.2.10 Harness
Harness must at least be of type 4-point belts or so-called suspender belts (y-belts) or more, and they must be well attached to the body and/or roll cage according to harness manufacturer's specifications. The harness must be in good condition and may not be modified. If new mounting points are created in the body, a steel reinforcement plate with a surface area of at least 40 cm2 and a thickness of at least 3 mm must be used. The passengers must be buckled at all time in the section during driving or rescue. The belt system used is to be put on according to its regulation and may not be manipulated. Vehicles with active airbag or belt restrain systems must be marked at both doors with the “Airbag”-symbol. It´s allowed to remove the airbags.

3.6.2.11 Rollcage
A six-point roll cage is mandatory. The roll cage must consist of a Basic structure according to 3.2.6.4, backstays, diagonal member 3.2.6.6 and roof reinforcement 3.2.6.7.
External roll cage is allowed.
See 3.2.6 for more info.

3.6.2.12 Protective netting /Armstraps
Protection nets or armstraps must be used. Net must cover the door/window area so the arm/hand cannot come outside the car. This also applies to armstraps. If arm straps are used they must open together with the harness.

3.6.2.13 Body attachment
Hardtop, tarpaulin with linkages inclusive all locked mounting plates, tailgate, 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). Interior door panel must be present. Material free, however not paper, cardboard, fabric or similar.
Original doors can be changed to half-doors. The door must be able to open from the outside, or have a marking on the outside that shows where the opening is on the inside of the door. 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. and the material must not be transparent. 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 Under shield
Under shield is optional.

3.6.3 Suspension
3.6.3.1 Spring / Radius Arms / Axle mounting arms
Spring type change is allowed from original spring type to leaf spring or coil spring only.
All other spring types are not allowed, except they are original springs.
The mounting points on frame / body and axles are free.
The wheelbase may vary up to 1% of the original specifications and the original position of the axles must be kept. "Spring over axles"is allowed. Reminder: It is up to the driver to prove this!
~~The type of spring must maintain as original (coil spring, leaf spring, torsion or pneumatic). The fastening points of the springs must be kept in the frame. It is allowed to move the fastening points heightwise, but not in a lateral or longitudinal direction of a leaf-sprung vehicle.~~
Shackle reverse is
allowed, meaning: cars with shackles in front of the leaf spring can change to shackle in the back of the leaf spring and otherwise.
~~It is not allowed to move the fastening points of support, control and/or radius arm in the frame of a /torsion or pneumatic sprung car. Change of radius arm are allowed, likewise material of radius arm and bushing.~~ -Number, length and Position of the Axle mounting Arms and radius arms are free in case of solid axles. In case of original IFS / IRS they have to been kept original (no modifications on the IFS / IRS are allowed).~~, likewise material of radius arm and bushing. The number of points where the radius arm attaches to the axle must be the same of its original configuration. Johny-joints, universal-joints or any kind of free-moving joint is not allowed.~~

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 and the working principle must been kept in Original. Only passive Shock absorbers are allowed, self-supporting air shocks Coil-over shocks and shocks with external reservoirs are not permitted.
~~, 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 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 if they are not self-supporting.
Adjustable shock absorbers are forbidden.

3.6.3.4 Bump stop
Optional. Hydraulic bump stops are not permitted.

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

3.6.3.6 Torsion stick / Stabilizer bar

Optional. ~~For every axle, it´s allowed with two torsion sticks, with maximum two fastening points at the axle and two fastening points in the frame/body for both sticks.~~

3.6.4 Steering
3.6.4.1 Steering
The steering stop screws are optional. Only conventional, mechanical power steering is allowed. Modifications on the frame during change of steering unit are not allowed except new mounting holes and reinforcement of mounting holes. Cutting away parts of the frame is not allowed.

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.
Brake tubes must be well attached, and brake hoses must be secured with metal fasteners. Plastic strips are not allowed.

3.6.5.2 Parking brake/emergency brake
A well functional parking brake/emergency 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.
The control system must be possible to engage with one hand or one foot, and it must automatically remain locked when engaged. The parking/emergency brake must be able to slow down the vehicle in case of failure of regular brakes. See 3.2.5 for test procedure.

3.6.5.3 Steering brake
Not allowed.

3.6.6 Wheels
3.6.6.1 Tire
Agricultural tractor profiles, spikes, chains and dual tires are not permitted, otherwise tires 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 tire from the sill and 120 degrees of the tires 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. NOX-injection is not allowed.

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 aspring 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/co-driver at any angle. Even if the car has rolled over. The radiator, water-hoses 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 co-driver from scalding or burning.

3.6.7.4 Fuel tank / fuel pipe
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. The rear of the exhaust system must be designed so that it´s possible to make a control of vehicle noise without problem. 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, transfer case and gearbox ratios are optional. The use of differential lock in transfer case are optional. The drive system (permanent or disengage able) 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)~~.
Vehicles with straight (solid) axles:
Axles can be changed for solid axles only. Conversion to IFS suspension is forbidden.
Vehicles with IFS suspension (front or front/rear):
IFS suspension can be changed to solid axles, otherwise must be kept original. Explanation for IFS vehicles – you can do a solid axle swap or you must keep all the suspension original (arms, mounting points etc.). Modifying the IFS suspension is forbidden.
All vehicles with borderline suspension (like Ford Bronco) are considered IFS suspension.
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 must 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 driver's 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. Diesel engines which do not have an electrical "turn of"-solenoid must have a "stop the engine"-wire installed along with the main circuit breaker.

3.6.9.3 Lights

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. Otherwise optional.

3.6.9.4 Electronic support

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