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# Part III Technical Rules - Modified

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Version 1 Feb, 2022. (All elder regulations are not valid). Only the version published on the [www.eurotrial.eu](http://www.eurotrial.eu) website is valid.

These are technical rules and regulations for Eurotrial Championship for 2019 to 2023, and they are closed for this period of time.

In case of severe security risks, apparent errors in the regulation or unsportsmanship caused by a loophole of the rules, changes will be made by Eurotrial committee.

Changes in the regulation is done in red color and underlined, old text that is not valid is with blue text with line through.

**Those rules apply together with “Part III Technical rules – common”.**

## **3.6 TRIAL GROUP M “MODIFIED” (IMPROVED SERIES VEHICLES).**

### **3.6.1 General information**

Vehicle modifications are only allowed as specified in the rules.

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 unless specifically restricted.

Only ordinary diesel or petrol fuel is allowed.

Beyond this the following regulations apply:

### **3.6.2 Frame/body**

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

Fittings/brackets for engine, gearbox, transfer box, axles, torsion sticks, radius arms, springs, shock absorbers, exhaust system and other bracketry may be (re-)moved or modified. Bumper mounting points can be removed or modified.

Body mounts must be kept in original position, and quantity on frame and body. They must not be changed so that they weaken, but may be strengthened freely.

The length and width of the chassis/frame must be kept as original.

If the car was originally built with a self-supporting body (unibody/monocoque), the “frame” or sub-frame parts must be kept in original dimensions and positions.

The wheelbase may vary up to 1% of the original specifications.

#### **3.6.2.2 Body**

The body above the belt line can be modified.

Belt line is defined as: 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, Suzuki LJ etc.) the front fenders can be raised and/or cut by max. 100mm in all.

The lower front corner of the front wings may be reduced max 100mm in height, or maximum up to the grill / light frame and max to the chassis from the side.

The lower rear corner behind the rear wheels may be reduced max 100mm, or up to the floor and max to the chassis from the side.

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 metal, 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.

### **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 similar temporary 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 "Makrolon". 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 Bumpers**

Bumpers may be removed **or** changed to 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.

Holes and/or minor modifications to accommodate for hoses, pipes, cables, exhaust etc are allowed. Modifying the transmission tunnel is allowed. Widening the tunnel is limited to 50mm to each side.

### **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 cm<sup>2</sup> 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 Roll cage**

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 /Arm straps**

Protection nets or arm straps must be used. Net must cover the door/window area so the arm/hand cannot come outside the car. This also applies to arm straps. 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, EUROTRIAL RULES 2019 PART III – TECHNICAL RULES – DRAFT

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 and/or potential damage by rigid metal shield. Fuel/coolant-tube/pipe/hose going through the drivers cabin must be “seamless” (no connections/joints inside drivers cabin) to prevent fluid from spreading into the passenger area.

If the series arrangement is maintained, no additional protection is necessary.

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

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

#### **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, coil spring or coil overs only.

No other spring types are allowed unless they are original springs. Air shocks are not permitted.

The mounting points on frame / body and axles are free.

“Spring over axles“ is allowed.

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.

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 the mounting points on the frame/chassis and on the

stub axle have to been kept in original position.

### **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 be kept as original.

Gas-pressure shock absorbers are to be regarded by work principle as hydraulic shock absorbers.

It is forbidden to be able to adjust the shocks while driving.

### **3.6.3.4 Bump stop**

Optional.

Hydraulic bump stops are not permitted.

### **3.6.3.5 Level control**

A serial level control is allowed if originally fitted to the vehicle, and the vehicle have original spring system. may be inserted while maintaining the original work version.

### **3.6.3.6 Torsion stick / Stabilizer bar**

Optional. See 3.6.3.1

## **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 Brakes**

### **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. Brake tubing to brake hose transition points must be secured with rigid metal fasteners, of the type clip or nut. Plastic stripes 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 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. Tire diameter is limited to 1000mm.

**3.6.6.2 Wheel/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 non-transparent material.

**3.6.7 Engine****3.6.7.1 Engine**

Optional. NOX-injection are not allowed.

**3.6.7.2 Mixture preparation**

If there is a defect with the throttle control it must be ensured that the engine returns to idle (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/co-driver at any angle. Even if the car has rolled over. The radiator, hoses and pipes 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 must be leak proof in any position of the car or the fuel tank.

Tank fasteners must be made by metal only.

If non serial tank is used there must be an anti-return breather valve fitted.

**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 car models original 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.

Vehicles with straight axles:

Axles can be changed for straight axles only. Conversion to IFS/IRS suspension is forbidden.

Vehicles with independent suspension (front or front/rear):

The mounting Points on the frame / chassis and on the stub axle have to be kept in original position and place.

Vehicles that are rebuilt from independent suspension to straight axles:

Independent suspension can be changed to solid axles.

Axle ratio is optional.

Portal axles are forbidden.

All vehicles with borderline axles (like Ford Bronco / TTB axles) are considered as IFS.

### **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 cars original series. Remanufacturing to 2WD Low is not permitted.

## **3.6.9 Electric**

### **3.6.9.1 Battery**

Optional. Electrical cables must be well protected.

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

Battery must be firmly secured to body/chassis by metal fasteners only.

### **3.6.9.2 Main circuit breaker**

A main circuit breaker is mandatory. 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