

NOVEMBER 2024

# RALLY X TECHNICAL REGULATIONS

## OPEN 2WD 2025



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**Black text = Existing text 2024**

**Red text = New text from 2025**

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### CLARIFICATION PRO & Pro am

- Pro and Pro Am entrants will race together against each others in Practice, heats, semi finals and warm ups. There will then be 2 separate Finals. 1 for Pro and 1 for Pro Am.
- All entrants in both Pro and Pro Am will be eligible to race in the Pro final if they qualify. Only cars that are eligible to race in Pro Am can qualify for the Pro Am final.
- The Pro Am final start positions will be decided after the intermediate standings after Q3 on double headers and Q4 on single headers.
- The semi finals will only settle the start grids for the Pro final.
- If a Pro Am eligible car qualifies for the Pro final aswell as the Pro Am final the entrant needs to drive both.
- A Pro Am car can have a maximum of 2400cc and have to be normally aspirated. Cars that dont meet those requirments will have to race in the Open 2wd Pro category only.

### RC-2WD 0.0 Eligible CARS

- The car must be of a manufacturer's serially produced saloon / estate car that is/ has been type inspected in the EU or Americas for at least 2 people.
- There shall be documentation from the producer or importer showing the appearance and dimensions of the car. Documentation may be a catalogue of parts, sub-catalogue scans or other documents published by the producer.
- Only two-wheel drive cars are allowed. Cars equipped with four-wheel drive in their basic homologation may optionally be modified for front or rear wheel drive.
- Only a car with a fully covered body work without a detachable roof is allowed.
- In new market to help the growth of the category Rally X reserves the right adjust the approved regulations necessary.

### RC-2WD 1 BODYSHELL

#### RC-2WD 1. 1 Supporting parts and deformation zones

- No modification (modification) of the original frame is allowed. Lightening by changing sheet metal thickness is allowed. If lightening is made, the shape and function of the relieved part shall be retained. Lightening must not be done by cutting off the car's original beams and crash protection so that the strength and deformation zones of the frame deteriorate. Also applies inside beams.
- Reinforcement of existing material is allowed if this follows the original shape of the frame and is in contact with it.

#### RC-2WD 1.2 Floor

- The floor should be kept in the original version but can be modified/reinforced if necessary . with the Propshaft tunnel.
- Any modification of floors shall be carried out with the same type and thickness of material as the original.

#### RC-2WD 1.3 Rear wheel housing

- The rear wheel arches may be freely modified

**RC-2WD 1.4 Front wheel housing**

Front wheel arches may be freely modified

**RC-2WD 2 WHEEL SYSTEM****RC-2WD 2.1 Tyres**

Only tires from the single supplier with the original thread pattern may be used. No additional cutting is allowed. The type of tyre (dry and wet-weather) will be defined in the tyre commercial sheet. Only these registered tyres may be used for the official practice, warm up, heats, Semi finals & Final.

All tyres from the single supplier will be marked with a specific barcode and its the teams responsibility to make sure the barcode is always readable for the technical delegate.

**RC-2WD 2. 2 Suspension**

- Free. Fixing points are free.
- Wheel axles may be moved (forward or backward) up to a maximum of 50 mm from the homologated position. Homologated wheelbase spacing should always be maintained.
- If "four-links" are built in the cockpit, these shall be covered by a sheet metal tunnel of at least the same thickness and quality as the car's original floor plate.

**RC-2WD 2. 3 Shock absorbers**

- The number, type and position of the shock absorbers are free and their attachments may be added to the chassis and suspension

**RC-2WD 3 DRIVE SYSTEM****RC-2WD 3.1 Engine general**

- Engine free / number of cylinders/ overcharging or other system such as electric drive free.
- The engine shall be located in the original engine compartment. Front and rear or middle according to original version for the car.
- An oil collector of at least two litres shall be provided if the engine does not have closed crankcase ventilation.
- For Open 2wd Pro AM category a maximum of 2400cc is allowed and overcharged engines are not allowed. Cars that dont meet these requirements will have to race in the Open 2wd Pro category only.

**RC-2WD 3.2 Weight table/weight ratio**

Free

### RC-2WD 3. 3 Fuel system

- The original tank should be removed. When the original tank is dismantled, holes resulting shall be covered with sheet metal or netting of the same thickness as the original floor or a maximum of 2 mm. Safety tank of type FIA/FT3 or FIA/FT3 1999 is recommended. **From september 2025 an approved FIA/SFI fuel tank is mandatory.**
- The fuel tank (max 20 litres) shall be mounted outside the compartment and at least 300 mm sideways and longitudinally from the outer sides of the body.
- The fuel cap should be of type with threads, or quick release. The fuel tank must not be located in the engine compartment.
- The separation wall against the interior compartment shall be liquid-proof and not of combustible material. Transparent wall of polycarbonate is allowed.
- Fuel line which may be exposed to mechanical influences shall be protected. In the compartment, the fuel line must be all one piece.
- The fuel line must not be installed between the protective cage and the body.
- All fuel pumps of the car may only operate when the engine is running, except at the moment of starting.
- P1 racing fuels are the single fuel provided for Rally X. The following 100% fossil free fuels are allowed: Bio Racing 100%, Eco 100 RS, Eco 100 Pro. No additives may be added. If by any means your car can not be run by these fuels you need to ask for special approval by Rally X on [technical@rallyx.se](mailto:technical@rallyx.se) . It needs to indicate why you can not use the fuel and what you want to use instead.

### RC-2WD 3. 4 Cooling system

- The cooler and its capacity are free. Its location is free provided that it is not placed in the compartment. Extra cooling fan/s may be installed.
- Radiator covers may be fitted if this does not involve any reinforcement of the bodywork. Cooling water pipes may be routed through the front and rear bulkhead walls. If cooling water pipes are routed in the cockpit, these shall be insulated and shall not be located above the lowest point of the door roll cage bar opening. These must also not be spliced in the cockpit. Pipes spliced with hard-soldered couplings are allowed, but not so-called press couplings with O-ring.
- Hoses, pipes, tubes, etc. for cooling air may be in the cockpit. Holes may be located behind doors and under the rear side window, floor in the trunk, tailgate and back trunk. The holes shall be covered with nets. The mesh shall also follow the original shape of the body. Air intake of aircraft type is allowed.

**RC-2WD 3. 5 Exhaust system**

- Silencers are required. The outlet of the exhaust pipe shall face straight back max. 45 cm and min. 10 cm above the ground and with the exhaust direction backwards. The exit of the tube shall end within the external limit of the car, but no longer than 10 cm from the external limit. In addition, adequate protection must be provided to prevent burns.
- The exhaust system must not be provisional. Exhaust gases may only enter the mouth of the pipe. Parts of the chassis must not be used to for exhaust gases.
- The exhaust pipe must not be pulled inside the cockpit.
- All cars shall be equipped with catalytic converters, homologated by the FIA or ASN. The function shall be checked in accordance with the SBF's rules for the control of catalysts.

**RC-2WD 3. 6 Battery/ Power supply**

- The weight of the battery including fasteners must not exceed 20 kg, unless electric engine power is used.
- The battery must not be placed in the cockpit if the battery is liquid filled and must be fitted according to TR 5.21
- Electric cables shall be fixed and provided with additional protection where necessary
- Power lines must not be installed between the protective cage and the body
- Otherwise free

**RC-2WD 3. 7 Main switch**

- Mandatory according to TR 5.13 / FIA

**RC-2WD 3. 8 Power transmission**

- Drive may be made with the front or rear axle. Driving axel according to homologation need not be retained. Device for varying drive between front and rear axle is not allowed.
- Cars must be equipped with two safety rings. One front and one rear, which the universal rod runs through. Minimum 6 mm thick and at least 50 mm wide steel plate.
- If the flywheel or coupling is within the driver's area (under normal driving position), an approved SFI coupling housing must be used, or a steel plate at least 100 mm wide and 5 mm thick around the coupling housing must be provided, or an explosive guard in the form of a material approved for the purpose. Flywheel and clutch must be covered.
- The engine may be moved backwards, but never further back than the front edge of the engine block measured at the gasket plane(s) for the top(s) shall be in front of a line through front wheel spindles. The bulkhead wall is allowed to be modified to allow space for engine placement.
- See sketch RC-2WD sketch 1 engine placement.
- When using the Wankel motor, the engine may be moved backwards, but never further back than the front edge of the gasket plane on the oil sump should be in front of a line through front wheel spindles. The bulkhead wall is allowed to be modified to allow space for engine placement.

See sketch RC-2WD sketch 1 engine placement. The engine block can also be placed in front of the original torpedo wall as an alternative.

**RC-2WD 3. 9.1 Transmission/Gearbox**

- The clutch housing, clutch and gearbox are free. A functioning reverse gear shall be available.
- The type and position of the gearbox is free, but must have a fully mechanical gear transmission.
- Placement of the shifters is free.

**RC-2WD 3. 9.2 Transmission/Final Drive/Differential**

- Final drive and rear axle are free.
- Differential may be installed.
- The Propshaft/drive shafts are free, but should be made of magnetic material.
- Traction control is prohibited.
- "Launch control" is allowed, but may only regulate the maximum speed of the engine.



## **RC-2WD 4 BRAKE SYSTEM**

### **RC-2WD 4.1 Service brake**

- A two-circuit system is mandatory
- ABS brakes are not allowed.
- Otherwise free.

### **RC-2WD 4.2 Handbrake**

- It is allowed to install so-called hydraulic handbrake.

## **RC-2WD 5 Controllers**

### **RC-2WD 5.1 Steering**

- Steering-lock shall be removed. Steering quick release is recommended.
- The steering column shall have a fully manufactured and functioning safety function of the car manufacturer, if any.

## **RC-2WD 6 BODY**

### **RC-2WD 6.1 Body work outside**

- No modification of the shape of the homologated body shall be made except in the case of fenders for all corners, front and rear bumpers and aerodynamic devices.
- Mechanical components must not be fitted so that they protrude outside the bodywork except on the inside of the mudflaps.
- Ornamental strips should be removed. Protective plate under the car is allowed
- The front plate or grill may be replaced with any material. Material thickness of sheet metal not more than 1 mm, plastic 3 mm. The shape of the replaced part shall be in conformity with the original.
- Two horizontal tubes may be located behind the front (20x1 or 20x20x1 mm). The tubes may be joined together with three vertical tubes of the same dimension. This reinforcement may also be provided to protect the engine inside the tailgate of the car models fitted to the engine behind the compartment

### **RC-2WD 6.2 Bumper**

- Free design
- Fixings must not be constructed in such a way as to strengthen the bumper.
- It is also allowed to replace the bumper beam with a pipe with a diameter of 40x2 mm or. 50x1.5 mm. The outer dimensions of the tube may be frame legs + 150 mm. The plate for the attachment to the frame leg may be max 3mm thick and fastened with min 2 pcs. M8. The joining between transverse tubes and the plates is made with a tube/side measuring 40x2 or 50x1,5mm.

**RC-2WD 6.3 Cockpit**

- The dashboard and interior upholstery may be removed. It is permissible to mount instruments and steering column in the front of the protective cage in the crossbar that runs between the front cage parts at the A-pillars
- Disassembly or modification must not mean that sharp corners or edges are adjacent to the driver's seat.
- In addition to equipment which may be fitted to or through partition walls, the following may be provided:
- Fire extinguisher (Life support system), ballast, washer container and protective cage.

**RC-2WD 6.4 Doors**

- The door on the driver's side should be original. Driver's door may be covered on the outside of the door mirror with a demountable plastic or fibreglass disc max thickness 2 mm.
- Materials in other doors are free, but the shape and function must conform to the original.
- Cover may be removed. On the driver's side door/s, it should be replaced with a smooth sheet metal. Window mesh according to TR 5.20 is mandatory.
- Additional internal locking devices (straps or equivalent) are permitted.
- Rear door/s may be welded/glued again

**RC-2WD 6.5 Hoods and Hatches**

- The material is free. Exterior shape free.
- Original locking device should be removed. There should be four fixings on the hood and luggage compartment door if the material is sheet metal. If the bonnet is of other material, there shall be at least five fixing points (three at the front and two at the rear edge).
- If the bonnet or plastic boot was used and they are attached with a stick and locking pin, the metal reinforcement washer shall be located on both sides of the hood. The size of the reinforcement washer min 60 mm in diameter.
- Openings for ventilation may be in the bonnet and luggage compartment door.
- The opening should be covered with netting that follows the original shape. The bonnet and luggage compartment hatch shall be closed during competition.

**RC-2WD 6.6 Fenders**

- Original screens may be changed
- Maximum widening of fenders or wider fenders are free but maximum total width of car for not exceeding 2000mm. The wheels must be inside and must not protrude.

**RC-2WD 6.6.1 Original fenders**

Alternative materials allowed:

- If sheet metal is used, the screen and any screen width shall be of the same thickness as the original fender.
- If plastic is used (fibreglass or similar), the screen and any screen width may have a thickness of max 3 mm without any form of reinforcement.
- If composite material is used (kevlar or similar), the screen and any screen width may have a thickness of max 2 mm without any form of reinforcement.

**RC-2WD 6.6.2. Fender widening**

- Separate fender extension may be mounted on the outside of the original fender and door.
- If plastic is used (fibreglass or similar), the fender and any fender width may have a thickness of max 3 mm without any form of reinforcement.
- If composite material is used (kevlar or similar), the fender and any fender width may have a thickness of max 2 mm without any form of reinforcement.
- The shape is free, however, the shape of the wheel arches should be retained. This does not mean that the original measure must be retained. The fender shall cover the entire wheel width and at least one 1/3 of the circumference of the wheel.

**RC-2WD 6.7 Aerodynamic devices**

- Free

**RC-2WD 6.8 Windows**

- The windscreen shall be of laminated glass or of hard plastic material (polycarbonate plastic, etc.).
- The other panes shall be of safety glass or polycarbonate plastic.
- If the windscreen is fitted of polycarbonate plastic, it shall have a thickness of min 4 mm. The other windows shall have a thickness of min 3 mm.
- windows must not be coloured. Coloured windows are only allowed if they are the car's original windows coloured from the car manufacturer.

Windows shall be fitted in such a way as to follow the shape of the body.

- Windows shall be closed during competitions, the non-driver's side window shall be open to a maximum of 1/4.
- Sunscreen film may be mounted on the upper part of the windscreen, up to a maximum of 1/3 of the height of the windscreen.
- **FIA or SFI approved Window net on drivers side is mandatory and have to be mounted in rollcage.**

**RC-2WD 6.9 Driver's seat**

- To be mounted according to TR. 5.16 / FIA 253 65B
- All cars shall be equipped with fia-homologated seats. No part of the driver's seat shall be placed behind a vertical measured from the upper front edge of the tube in the headbar.

**RC-2WD 6.10 Protective cage**

- Mandatory according to. TR. 5.8 / FIA 253

**RC-2WD 6.11 Seatbelt**

- Mandatory with 6-point belt according to TR. 5.6 / FIA 253

**RC-2WD 6.12 Mudflaps**

- Should be on the driving axle and cover the entire width of the wheel, and have a maximum height above ground of 10 cm.

## RC-2WD 7 ANCILLARIES

### RC-2WD 7.1 Windscreen Wiper

- At least one windscreen wiper shall be fitted otherwise it is free. Washer containers may be installed in the interior compartment, mounted with at least 2 pcs. M8 bolt of 8:8 quality. Maximum weight of the washer container is free including contents and fasteners. If the washer container is installed in the compartment, it may contain only water.

### RC-2WD 7.2 Rear View Mirror

- Mandatory with internal rear view mirror. External rear view mirrors are recommended. Each exterior mirror shall then have a mirror surface of at least 90 cm<sup>2</sup>.

### RC-2WD 7.3 Brake lights

- Two clearly visible from behind, red lights of impact resistant type. The minimum illuminated surface shall be 60 cm<sup>2</sup> and the lamps shall be at least 21 watts each. These shall work together with or replace the car's regular brake lights. They shall not be placed higher than 1,5 metres or less than 1,0 metres above ground level. They shall be horizontally symmetrically positioned.
- In addition to the two brake lights described above, there shall be a rear-facing red light at least 20 watts (max 30 watts). It should be mounted at the rear of the car.

If the lamp is not of FIA homologated type according to Technical list No. 19, the illuminated part of the lamp shall be greater than 60 cm<sup>2</sup> but shall not exceed 70 cm<sup>2</sup>. It shall :

- be visible from behind
- be located in the car's centre line
- always be lit during training, heats and finals
- function, even if the main switch is switched off.

### RC-2WD 7.4 Other lighting

- External lighting may be dismantled if the holes that have arose are covered. The original body shape must not be changed. For cooling purposes, it is permissible to leave a hole of a maximum of 30 cm<sup>2</sup> in each such cover plate.

## RC-2WD 8 INSTRUMENTS

### RC-2WD 8.1. Controls and instruments

Free

## **RC-2WD 9 OTHER DEVICES**

### **RC-2WD 9.1 Tow strap**

- There shall be at least two of them. One at the front and one at the rear, with a diameter of at least 60 mm, which shall not protrude outside the line of the body. The loop shall be so positioned that it is easily accessible to salvage personnel and painted with different colours. In addition, clearly excellent with an arrow, pointing to the loop.

### **RC-2WD 9.2 Fire extinguisher**

- Not mandatory but if available it should comply with TR 5.7 / FIA 253

### **RC-2WD 9.3 Minimum weights**

- Free

### **RC-2WD 9.4 Ballast**

- Free placement on the floor (cockpit or luggage compartment). Each ballast weight shall be fastened with at least two pieces of M12 through nuts and washers. On the underside of each bolt should be a reinforcement of sheet metal, welded to the floor. The thickness of the reinforcement should be min 3 mm and max. 5 mm. Size minimum 60 cm<sup>2</sup> and max 80cm<sup>2</sup> large. Max. ballast is 150 mm. It shall be possible to seal ballast.

## RC-2WD 10 Tyres

### 10.1.1

Only tires from the single supplier with the original thread pattern may be used. No additional cutting is allowed. The type of tyre (dry and wet-weather) will be defined in the tyre commercial sheet. Only these registered tyres may be used for the official practice, warm up, heats, Semi finals & Final. All tyres from the single supplier will be marked with a specific barcode and its the teams responsibility to make sure the barcode is always readable for the technical delegate.

### 10.1.2

Open2WD Dry drive wheels Tyre limitations for one Race Dry-weather tyres – A maximum of six (6) tyres per driver may be used, and of these six (6) no more then four (4) can be new tyres. For the first event a driver participates in they are allowed to use six (6) new tyres. The tyres should not have any other pattern cut, molded or hand-cut, other than what is made by the manufacturer at the time of production. These are the only dry-weather-tyres that may be used for that particular event, practice, qualifying heats, semifinals and final.

### 10.1.3

Open 2WD Wet drive wheels Tyre limitations for one Weekend. Wet-weather tyres – A maximum of six (6) tyres per driver may be used, and of these six (6) no more then four (4) can be new. For the first weekend a driver participates in, they can use six (6) new tyres. The tyres should not have any other pattern cut, molded or hand-cut, other than what is made by the manufacturer at the time of production. These are the only wet-weather-tyres that may be used for that particular event, practice, qualifying heats, semifinals and final.

### 10.1.4

The driver can freely choose between dry-weather or wet-weather tyres. The driver must assume that the clerk of the course will not suspend the qualifying heats, semifinals and final.

### 10.1.5

The tyres should be assembled on the rim and presented to Technical Delegate to mark the id-number before use. Marked tyres can NOT be exchanged. It is prohibited to use tyres that have been marked or re-marked for another driver. All the tyres marked for an event will be considered as having been used once the car's timing transponder has indicated that it has entered the track.

### 10.1.6

All forms of tyre heating/heating retention devices are prohibited. No chemical and/or mechanical tyre treatment is permitted. No other form of artificial heating or heat retaining of the tyre or wheels is permitted. It is not permitted to apply tape or similar to the tyre/side of the tyres. All this applies to both dry-weather and wet-weather tyres.

### 10.1.7

Scraping of the tyres is not permitted.

### 10.1.8

Drivers must ensure that the tyres used at each event conform to the Regulations.

### RC-TR Sketch 1. Engine placement

