

ARTICLE 285 FFSA

SPECIFIC REGULATIONS FOR CROSS-COUNTRY CARS PROTOTYPES T1A / T1B

INTERPRETATION

In case of any doubt or dispute concerning its interpretation, the French text shall be considered as the official text.

ARTICLE 1. DEFINITION

Mechanically propelled single-engine land vehicles with 4 wheels, propelled by their own means, and of which the propelling device and steering are controlled by a driver on board the vehicle
These cars may be unit-built, but must comply with the International Convention on Road Traffic.

Automobile Make: An "automobile make" corresponds to a complete car.

When the car manufacturer fits an engine that it does not manufacture, the car will be considered as "hybrid". The name of the car will be the car manufacturer associated with the name of the engine manufacturer.

The name of the car manufacturer must always precede the engine manufacturer.

ARTICLE 2. OBLIGATIONS

2.1. Group T1A and T1B cars must comply with the general prescriptions and with the safety equipment defined in Articles 282 and 283 respectively. Only chassis in ferrous materials are authorized.
From 1st January 2014, any new chassis must be submitted to FFSA approval concerning the safety cage. For this purpose, a specific drawing of this one, signed by qualified technicians must be sent to the FFSA technical department for approbation.

Furthermore, any chassis must be identified individually by means of an identification plate affixed on the safety cage, this identification plate must be neither copied nor moved.

2.2. Tanks: (See also article 283.14)

Any tank containing oil or fuel, must be located in the main structure of the car.

2.2.1. Only the fuel tanks conforming to the FIA/FT3 1999, FT3.5, FT5 standard are permitted.

2.2.2. Tank installation:

The tank (s) will be installed (s) preferably outside the cockpit. If a tank is installed in the cockpit, it will be located in an area at least 15 cm inside the structure. It must be isolated by a fireproof and liquid-proof bulkhead.

For any new construction from 1st July 2014, and only for cars competing in an open-road event (rally) the fuel tank must be situated behind the front seats.

2.3. Battery

The location is free.

If installed on the cockpit:

- The battery must be situated under or behind the driver or co-driver seat.

- The battery type must be "Dry" or "Gel"

Battery installation

Any battery must be firmly attached and the positive terminal must be protected

The fixing to the shell /chassis must be made by a metal seat, and two metal clamps with an insulating covering, fixed to the floor by bolts and nuts.

The fixing of these clamps must use bolts with a diameter of at least 8mm and under each bolt a counterplate at least 3 mm thick and with a surface of at least 20 cm².

2.4. Steering

Steering column must contain a retraction device (stroke 50mm). The system must come:

- From a series car
- From a free construction
- A steering wheel with hub absorber.

The steering wheel must be removable and include a quick release mechanism according the Article 283.20

ARTICLE 3. BODYWORK

3.1. Exterior

The windscreen is optional for T1A and T1B cars. If is however foreseen, it must be made of laminated glass, or transparent polycarbonate at least 5 mm thick, whatever is the shape and the surface.

If the windscreen is glued, it must be possible to remove or break the front doors windows from inside the cockpit without using tools.

Side windows: See article 283.11

The maximum width of the bodywork is 210 cm.

From January 2010, the bodywork shall not exhibit resemblance to a Touring Car or Grand Touring car, still in production or not.

The shape of the bodywork may, however, looks like a 4x4 or SUV.

An original bodywork shape will be allowed.

A car with bodywork not built according to the requirements above will be considered as not in conformity with the technical regulations.

All cars bodywork must be made from a hard no-transparent material. It must extend, upwards at least the center of the steering wheel without being less than 42 cm above the plane determined by the mounting plane of the driver seat, and it must provide protection against loose stones.

Seen in vertical projection, the bodywork must cover at least 120° of the upper part of the wheels (situated above the wheel axis as viewed from the side) and all the mechanical components with the exception of spare wheels, including their anchorage points and attachments. The bodywork must reach, (or be extended rearwards) at least to the level of the upper edge of the rim and close the rear part of the car.

Openings for the cooling of the power unit may be applied in the bodywork, in the case of projected opening the maximum height will be 100 mm.

Any air intakes must have only the function to introduce air to the crew or refresh the mechanical parts.

All parts of the bodywork must be carefully and fully finished, with no temporary or makeshift parts, no sharp corners. No part of the bodywork may present sharp edges or pointed. The minimum radius of the corners cannot be less than 15 mm.

All parties having an aerodynamic influence and all parts of the bodywork must be secured rigidly to the completely sprung part of the car (chassis / body unit), must not have any degree of freedom, must be securely fixed and must remain immobile in relation to this part when the car is in motion.

The front body shape of the car cannot present parts or shape with a dangerous character. All anti-splash/mudguard device added in front of the car must be made with flexible material and must be downward sloping with a minimum angle of 40° to the horizontal.

These devices cannot exceed in vertical projection the front body shape more than 9cm, width is limited at 40cm, and the number cannot exceed 2.

3.2. Interior

The bodywork must be designed to ensure comfort and safety of the driver and possible co-drivers. No part of the bodywork may present sharp edges or pointed. No mechanical part may protrude into the interior of the cockpit. Any equipment that could involve a risk, to be protected or insulated and not be situated in the cockpit.

Inspection hatches are authorized in the structural bulkheads of the cockpit. The inspection hatches must allow neither the installation or the removal of mechanical parts, with the exception of the air filter.

They must allow the cockpit to remain leakproof and flameproof.

The cockpit must be separated from the mechanical part by a bulkhead.

The cars must have lateral openings allowing the exit of the driver and possible co-drivers. Their dimensions must be such that it is possible to inscribe a rectangle of at least 50 cm wide and 50 cm high, measured vertically, the corners may be rounded with a maximum radius of 15 cm.

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

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

Only the two-seater cars are allowed. For "Endurance events" only, it is permitted to remove the passenger seat. This space can be reused to install the fuel tank (see article 283.14). Each location provided for each seat must have a minimum width of 45 cm maintained over the complete depth of the seat.

The distance between the two lengthwise centre-line of the two seats of the car must not be less than 50 cm. If the two centre-lines are not parallel, the measurement must be taken from the hollow of each of the two seats.

The minimum interior width of the front seats is 110 cm, over at least 25 cm in height and 40 cm in length.

For any passport established from 1st January 2014, the minimum vertical height protected is 90 cm from the hollow of each seat and a line joining (outside) the two main rollbars or inside the roof. The minimum width of the footwell must be of 25 cm, maintained to a height of 25 cm, measured horizontally and perpendicularly to the longitudinal axis of the chassis, above the pedals. The pedals must be behind or in alignment with the axis of the front wheels.

ARTICLE 4. WEIGHT

4.1) The following scale of weight is applicable.

Corrected cylinder capacity (in cm3)	4 wheel drive	2 wheel drive
Up to 1050 cm3 (SSV)	600 kg	550 kg
Over 1050 cm3 up to 1400 cm3	750 kg	650 kg
Over 1400 cm3 up to 1600 cm3	800 kg	700 kg
Over 1600 cm3 up to 2000 cm3	900 kg	800 kg
Over 2000 cm3 up to 2500 cm3	1000 kg	900 kg
Over 2500 cm3 up to 3000 cm3	1060 kg	960 kg
Over 3000 cm3 up to 3600 cm3	1120 kg	1010 kg
Over 3600 cm3 up to 4000 cm3	1180 kg	1070 kg
Over 4000 cm3 up to 4500 cm3	1240 kg	1130 kg
Over 4500 cm3 up to 5000 cm3	1300 kg	1190 kg
Over 5000 cm3 up to 5500 cm3	1360 kg	1250 kg
Over 5500 cm3 up to 6000 cm3	1420 kg	1310 kg
Over 6000 cm3 up to 6500 cm3	1480 kg	1370 kg
Over 6500 cm3 up to 7000 cm3	1540 kg	1430 kg

In rally the scale of weight above is increased +25kg with the mandatory spare wheel. This is the weight of the car without fuel at any time during the event. The engine cooling fluid and lubrication oil as well as the brake fluid must be at their normal levels. The other tanks for consumable liquids must be drained and the following elements must be removed from the car:

- occupants, their equipment and luggage.

The weight of the car may be completed by adding one or several ballasts provided that they are strong and unitary blocks, fixed by means of tools, capable of having seals affixed and of being placed on the floor of the cockpit, visible and sealed by the scrutineers.

4.2) If a weighing procedure is carried out during one event, fuel tank not emptied, the weight will be the minimum weight as defined at article 4.1 + 10kg. Furthermore, the minimum weight as defined at article 4.1 must be respected

ARTICLE 5. ENGINE

5.1 Air restrictor (if mandatory)

All the air necessary for feeding the engine must pass through a restrictor, which must be made of metal or of a metal alloy. The internal diameter of the air restrictor must be complied with, regardless of the temperature conditions. The tube between the air restrictor and the engine must be airtight so that if this restrictor becomes totally blocked, the engine is stifled.

It is possible to use 2 air restrictors provided that the diameter normally used for one restrictor is divided by 1.432.

5.2 Normally aspirated engines (petrol or diesel) with a cylinder capacity greater than 3600cm³

Maximum internal diameter of the air restrictor:

<i>2 valves per cylinder</i>	<i>42 mm</i>
<i>More than 2 valves per cylinder</i>	<i>40 mm</i>

This diameter must be maintained for a minimum length of 3 mm. For petrol engines, the maximum internal volume between the restrictor and the throttle is set at 15 litres.

5.3. Supercharged engines

5.3.1 Coefficient for supercharged engines : See article 282.3.1

5.3.2 Engine equipped with a single turbocharger

The turbocharger must be, or must have been, regularly commercialized for car or motorbike use. Provided that the original compressor housing may still be identified, this one can be freely modified. The wheel blades cannot be modified. Respecting the points above, the turbocharger can be freely modified. **The waste-gate is free but not the function.**

5.3.3 Engine equipped with turbocharger multi-stages.

At the maximum, 2 turbochargers can be fitted in series, provided they are on the original engine used. Provided that the original compressor housing may still be identified, this one can be freely modified. The wheel blades cannot be modified. The original system of operation of the waste-gate may be modified and be rendered adjustable but this system must be retained. A mechanical system must remain mechanical, an electrical system must remain electrical. Respecting the points above, the turbochargers can be freely modified.

The turbochargers multi-stages are only permitted for diesel engines with maximum nominal cylinder capacity of 2000 cm³.

5.3.4 Volumetric compressors

The volumetric compressors will be admitted, provided it is, or must have been, regularly commercialized, and if they have an air intake with a maximum section 80 cm². The volumetric compressor can be freely modified, provided that the original parts may still be identified.

Concerning the articles, 5.3.2, 5.3.3, 5.3.4, the competitor must provide all necessary documents to check the used turbochargers / volumetric compressors. (Mark, type, dimensions and photos)

5.3.5 Cooling of the charge

The heat exchangers and intercoolers are free, provided to be air/air and/or air/water type. (see also article 282.1.7)

5.3.6 For all engines set out below, an air restrictor must be fitted on the compressor housing. The internal diameter must be maintained for a minimum distance of 3 mm measured downstream of a plane perpendicular to the rotational axis situated at a maximum of 50 mm upstream of a plane passing through the most upstream extremities of the wheel blades (see Drawing 254-4). The groove shown on the drawing is not mandatory.

a) Petrol or diesel engines with corrected cylinder capacity less than 3600cm³.

Maximum internal diameter of the air restrictor

Engines with 1 compressor	45mm
Engines with 2 compressors fitted in series	35mm

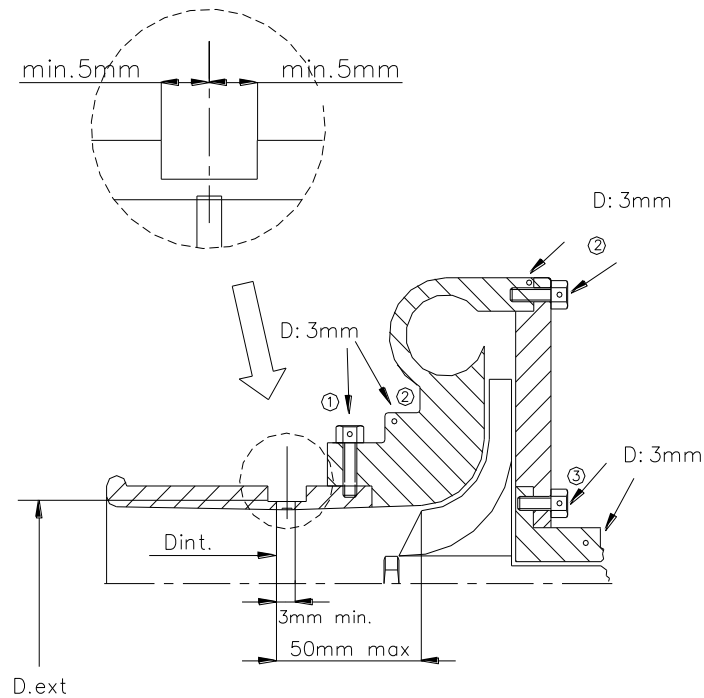
b) Petrol engines with corrected cylinder capacity greater than 3600cm³

Maximum internal diameter of the air restrictor

2 valves per cylinder	38mm
More than 2 valves per cylinder	35mm

c) Diesel engines with corrected cylinder capacity greater than 3600cm³

All supercharged diesel engines must be equipped with an air restrictor with a maximum internal diameter of: 35mm



- ① trou pour bride ou bride/carter de compression
hole for restrictor/compressor housing
- ② trou pour carter de compression ou carter/flasque
hole for compressor housing or housing/flange
- ③ trou pour carter central ou carter/flasque
hole for central housing or housing/flange

AUTRES POSSIBILITES :
OTHER POSSIBILITES :



254-4

The shape of the restrictor is free under the restrictions above
The compressors must be marked and/or sealed during the event.

5.4 At any time, the FFSA can enforce an air restrictor or modify the internal diameter of an existing air restrictor, with a minimum notice of 30 days preceding the date of application

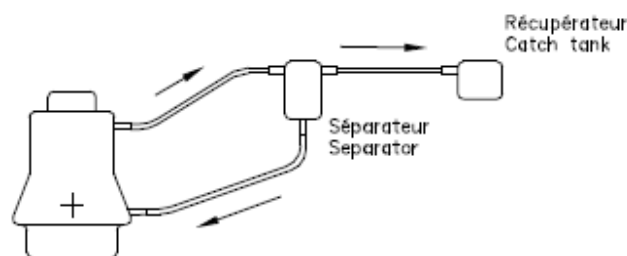
5.5 Lubrification

Oil pump, oil filter housing, radiator, oil/water exchanger, lines, thermostat, sump and pump strainers are free. The use of a system of lubrication by dry sump is authorised.

The oil chamber together with the lines must not be located in the cockpit . If the lubrication system includes an open type sump breather, it must be equipped in such a way that the oil flows into a catch tank. This must have a minimum capacity of 2 dm³ (litres) for cars with a cubic capacity equal to or below 2000 cm³ and 3 dm³ (litres) for cars with a cubic capacity of over 2000 cm³.

This container must either be made of translucent plastic or include a transparent panel.

An air/oil separator may be mounted outside the engine (maximum capacity 1 litre unless integrated into the catch tank) in accordance with Drawing 255-3.



255-3

The oil must flow from the oil catch tank towards the engine by the force of gravity alone.
The fitting of one or several ventilators for cooling the engine oil is authorised, provided that this does not have any aerodynamic effect.

5.6 Respecting the article 5, the engine is free, as ancillaries, (water pump...), and intake /exhaust manifold, heat exchangers and intercoolers, fuel and air feed, ignition, refresh, injection, carburettor, pipes, starter, electrical system, pulleys, belts, chains.....

ARTICLE 6. TRANSMISSION

(see also article 282.4)

The transmission system must be activated and controlled only by the driver

6.1 Gearbox and transfer box

Free subject to the following points:

6.1.1 "Sequential" type gearbox control

- steering-wheel gearshift paddle are allowed
- The number of forward gears is free.
- An engine ignition and/or injection cut-off system activated mechanically by the gear change is allowed.

6.1.2 Automatic gearbox

Only automatic boxes using a torque converter are authorised.

6.2 Clutch

Free

6.3 Final drive, differential

Free

The differentials must be of the single stage epicyclical type.

The self-locking devices must be entirely mechanical (with plates) and/or visco coupling.

The setting of their functioning parameters must be made exclusively with the use of tools when the car is immobilised.

The self-locking devices may have an actuator allowing only the locking of the differential(s).

6.4 Transmission shafts

Transmission shafts are free but must be made of steel.

6.5 Lubrification

An additional lubrication and oil cooling device is allowed (circulation pump, radiator, and air intakes) under the same conditions as for Article 5.5.

ARTICLE 7. SUSPENSION

7.1 General

The suspension is free but it is forbidden to use active suspension (any system which allows control of flexibility, damping, height and/or attitude of the suspension when the car is in motion).

7.2 Springs and shock absorbers

Free, provided that the following points are respected.

The adjustment of the springs and/or shock absorbers from the cockpit is forbidden.

It must only be possible when the car is not in motion and only with the use of tools.

The adjustment device must be situated on the shock absorber or its gas reserve.

Any connections between dampers are forbidden. The only connections permitted are the damper fixing points passing through the frame; these must have no other function.

7.3 Anti-roll bars

Free, but the anti-roll bar systems must be exclusively mechanical.

The anti-roll setting be adjusted directly by the driver, using an exclusively mechanical system without external power.

ARTICLE 8. BRAKING SYSTEM

The braking system is free, provided that:

- it is activated and controlled only by the driver,
- it includes at least two independent circuits operated by the same pedal (between the brake pedal and the callipers, the two circuits must be separately identifiable, without any interconnection other than the mechanical braking force balancing device),

- the pressure is identical on the wheels of the same axle, with the exception of the pressure generated by the handbrake.

Handbrake: See article 283.4

The locking handbrake must be exclusively manufactured with mechanical parts, however a ¼ turn valve efficient on the rear wheels can be used.

ARTICLE 9. WHEELS

The maximum diameter for complete wheels is 890 mm for two-wheel drive cars and 810 mm for four-wheel drive cars.

Central nut wheel fixing is forbidden. The use of any system for inflating / deflating the tyres when the car is in motion is forbidden,

ARTICLE 10. EXHAUST

A catalytic homologated by ASN technical list N°8, or FIA technical list N°9 is recommended for any new construction from 1st January 2014.

ARTICLE 11. CHASSIS

The car must have a structure immediately behind the driver's seat that is wider than his shoulders and extends above them when he is seated normally in the car with his seat belt fastened.

MODIFICATIONS APPLICABLES ON 01/01/2017

ARTICLE 2. OBLIGATIONS

2.1 Group T1A and T1B cars must comply with the general prescriptions and with the safety equipment defined in Articles 282 and 283 respectively. Only chassis in ferrous materials are authorized.

For any new French passport established from 01/01/2017, the used safety cage must be homologated.