CAN-AM X RACE TECHNICAL REQUIREMENTS

2019

Requirements to safety equipment and gear and technical requirements to ATV and SSV classes

Changes coming into effect in 2019 are highlighted in yellow.

Contents

TERMS AND DEFINITIONS

All-terrain vehicle, further referred as ATV – a commercial off-road vehicle not intended for permanent use on public roads with the following features:

- Driver seating – astride (motorcycle type)
- Handlebar– motorcycle type
- Seating capacity – two at most

Side-By-Side Vehicle, further referred as SSV – an off-road vehicle not intended for permanent use on public roads with the following features:

- Side-by-side seating for the driver and passenger
- Steering wheel and seats – automobile type
- Seating capacity – two to four
- Surrounding frame for crew protection

Note: SSV may also be denoted as UTV (Utility Task Vehicle).

The following features of all ATV/SSV vehicles must match the official manufacturer's catalogue:

- Preservation of a recognizable outside appearance specified in the manufacturer's catalogue.
- Conformity of the transmission with the manufacturer's catalogue, including the front gearbox.

MANDATORY SAFETY EQUIPMENT AND GEAR

1. Protective gear of the ATV group competitor

1.1. Helmets with chin protection system are mandatory. All helmets must comply with international standards according to **ATTACHMENT 2**.

1.2. Protective goggles or shields (visors) for full-face helmets are mandatory. The full-face visor should not be an integral part of a helmet. The eye protective material must be shatterproof. Eye protection with visible damage (cracks, scratches, etc.) must not be used. Use of the "Tear off" system (removable/detachable safety film on visor/glasses) is authorized. The use of motocross type protective gear: chest and back protection, neck protection, motorcycle-type boots – high boot-top safety footwear (Figure 1). Recommended apparel: shirt, jacket, trousers, and gloves of strong fabric.

Figure 1

2. Protective gear of the SSV group competitor

2.1. Helmets with chin protection system are mandatory. Helmets with partial chin protection may be used only on SSV supplied with a windshield (full-size or low profile). All helmets must comply with the standards of **Attachment 15 CR&S (Classification Requirements and Specifications)**.

2.2. Neck protection is mandatory to use by both crew members. The minimum authorized requirement – use of neck protection for carting (Figure 2).

Figure 2

2.3. Use is recommended of automobile FHR (Frontal Head Resistance) systems for neck protection for both crew members (Figure 3).

Figure 3

2.4. Recommended apparel: shirt, jacket, trousers, and gloves of strong fabric. Footwear of non-flammable material. Flameproof gear is recommended (overalls, thermal underwear, gloves, footwear) complying with standards of Attachment 15 CR&S (Classification Requirements and Specifications).

3. First aid kit

3.1. Every ATV/SSV must be equipped with automobile type first aid kit. The first aid kit must be located in an easily accessible location and have a multiple use waterproof packaging (e.g. a dry sack, a sealed container).

3.2. All components of the first aid kit must be fresh with valid expiration dates and have visibly intact packing.

4. Fire extinguisher

4.1. Each ATV must be equipped with an extinguisher that contains no less than 1 kg of fire suppressant.

4.2. Each SSV must be equipped with two fire extinguishers with minimum capacity of 2 kg each. One of those fire extinguisher must be easily accessible by the 1st and 2nd drivers when they are seating at their places with safety belts fastened and with steering wheel mounted on its place.

4.3. The fire extinguishers must have pressure gauges and the expiry date mark (clearly visible). Use of foam fire extinguishers is prohibited.

4.4. Fire extinguishers must be located in easily accessible places (ATV carrier, SSV safety cage). Fire extinguishers must be secured on the stationary bracket or holder of an attached kind (Figure 4).

Figure 4

Mounting – quick-release metal-band clamps. Fire extinguisher mounting must be reliable and enable its retrieval without using any tool. Do not place the fire extinguisher into a SSV saddle bag, sack, or glove box.

4.5. Use of the automatic fire extinguishing systems is authorized in the SSV group in case of its compliance with the specifications listed below:

4.5.1. The fire extinguishing system must comply with the requirements of Attachment 6 CR&S (Classification Requirements and Specifications) RAF (Russian automobile federation).

4.5.2. The nozzles of the system must not be directed at the team members

4.5.3. The extinguisher bottle must be located along the transverse beam axle of an SSV vehicle.

5. Horn

5.1. Each ATV/SSV must be equipped with electric or pneumatic horn with the level sound no less than 90 decibels (measured at 1 m distance). Switch-on device must be located either on a handlebar (ATV) or at the location that is easily accessible by any crew member (SSV) who is seating in his own seat, buckled up by the safety belts.

5.2. The horn must be operational during all the contest period.

6. Auxiliary equipment

6.1. It is allowed to use sand tracks to decrease SSV ground pressure.

6.2. A spare wheel reliably secured to the SSV frame is allowed. Maximum quantity of spare wheels – 2.

6.3. When an ATV/SSV is moving, all the equipment, tools, auxiliary gear of the ATV/SSV must be secured reliably.

6.4. A strap cutter is mandatory for use in the SSV group. It must be secured in a place accessible by anyone of the crew members (SSV) seating normally on his place, buckled up by the safety belts (Figure 5).

Figure 5

7. Auxiliary identification equipment

7.1. A start number plate

7.1.1. Each SSV must have a vertical start number plate, placed lengthwise centrally on the roof or on its side.

7.1.2. Plate dimensions 250 X 250 mm.

7.1.3. The plate must be bolted or riveted to the roof with at least 4 bolts (rivets).

7.1.4. Recommended material – aluminum, plastic.

7.2. Flag/pennant

7.2.1. Each ATV/SSV must have an identification flag/pennant on a flexible flagpole.

7.2.2. Position height:

- ATV – 1.5 m at least over the surface of front or rear fender,
- SSV – 1 m at least over the top point of the roof surface.

7.2.3. Flagpole material – fiberglass, duralumin. Diameter – no more than 8 mm.

7.2.4. Flag/pennant material – a strong synthetic fabric, dimensions at least 200x200 mm.

7.2.5. Flag/pennant color – orange, red.

7.2.6. Pattern of the flag/pennant – at discretion of participants.

7.3. Rear visibility

7.3.1. Rear visibility from SSV should be provided by means of two external rear view mirrors (one from the right and one from the left side).

7.3.2. Each rear view mirror must have the reflective surface of no less than 90 cm^2.

7.3.3. ATV class – minimum one mirror 50 cm^2 in area.

SPECIFICATIONS FOR THE ATV CLASS

1. DEFINITION

1.1. Commercial off-road ATV vehicles with 4x4 (4WD) wheel base, produced in quantity of 2,000 or more identical units.

1.2. Engine capacity – not more than 1,000 cm^3.

1.3. Transmission – variable-speed gear (CVT).

1.4. A competitor is responsible for proving the evidence of serial production of the entire ATV and its specific units and assemblies. The parts mounted onto the competitor's vehicle may be compared with the serially produced parts or with the manufacturer's catalogue during a technical inspection.

2. LIMITS OF PERMITTED MODIFICATIONS

2.1. An ATV must comply with the requirements of the "Mandatory safety equipment and gear" section of the present Technical Requirements and with the requirements listed hereunder.

2.2. Modifications and improvements of any part, unit or system which are not authorized by this Specification are strictly PROHIBITED.

2.3. Any worn or damaged part may only be replaced with an identical part.

2.4. A vehicle which design is recognized by the Technical Commission as dangerous will not be authorized by Sport Commissioners to compete.

3. ENGINE

3.1. Engine crankcase – original.

3.2. Machine tooling of cylinder head channels and manifolds is authorized.

3.3. AIR INTAKE SYSTEM

3.3.1. Air filter casing – original.

3.3.2. Replaceable filter cartridge – free to choose.

3.3.3. It is allowed to change the location of the air intake point to the air filter.

3.4. COOLING SYSTEM

3.4.1. A regular cooling system radiator may be replaced with any other and/or it may be relocated from its original location.

3.4.2. An additional radiator is permitted.

3.4.3. The protective devices (plastic or metal screens) should be provided when relocating regular radiator and cooling system lines to eliminate cooling agent getting onto the driver in case of cooling line or radiator damage.

3.5. FUEL SYSTEM

3.5.1. Fuel system – original.

3.6. EXHAUST SYSTEM

3.6.1. Mufflers from the accessory catalogue (Attachment 1) with noise level not more than 115 dB are authorized.

3.6.2. A muffler should not protrude over the back dimensions of the ATV. The muffler end cap must be horizontal (inclination to the road surface not more than ± 10 °). All sharp protruding edges must be rounded with a minimum 2 mm radius.

4. TRANSMISSION

4.1. Modification or replacement of drive and driven pulleys and belt of the variable-speed gear (CVT) is permitted if the original body is preserved.

4.2. It is permitted to replace drive shafts and brake hoses.

5. UNDERCARRIAGE, STEERING

5.1. FRAME

5.1.1. Frame reinforcement is authorized with overlays, replicating the shape of the component to be reinforced.

5.2. SUSPENSION

5.2.1. Suspension parts and units (exc. shock absorbers) should be original.

5.2.2. Reinforcement off suspension parts is authorized with components, replicating the shape of the original component.

5.2.3. Shock absorbers are free to choose, but their quantity (one per a wheel) and original top and bottom mounting points should be preserved.

5.2.4. Shock absorber length and stroke are free to choose.

5.3. STEERING

5.3.1. It is allowed to install a handlebar from the accessory catalogues. **Do not use rudders made of composite materials (carbon, kevlar, etc.)**

5.3.2. Installation of a rudder bracket listed in the accessory catalogue is authorized. Requirements to a rudder bracket:

- Material – steel, aluminum.
- Original mount to the steering column.
- Length not more than 200 mm.

5.3.3. Installation of a steering damper is authorized.

5.3.4. Replacement of steering rods with reinforced ones is authorized if the original design and materials are preserved.

6. WHEEL RIMS AND TIRES

6.1. Installation of wheel rims listed in the accessory catalogue for the specific ATV model is permitted.

6.2. Maximum rim diameter – 14”.

6.3. Only tires listed in the accessory catalogue for the specific model are permitted.

6.4. Additional tire side wall fixing on the rim (beadlocks) is allowed.

6.5. Spare wheel is authorized only if it is identical to the wheels mounted on ATV and is reliably secured.

7. SKID PLATE, BUMPER, AND STYLING KITS

7.1. Free choice of style and mount type of skid plate.

7.2. Free choice of style and mount type of bumper.

7.3. Free choice of style and mount type of safety bars.

7.4. All external protective and styling kits elements must have no sharp cutting edges. Sharp protruding parts must be protected with safety cups.

7.5. All external safety elements must have a protective function only and must not be used for any other purpose (unit fastening, no coolant and oil transfer etc.).

7.6. It is allowed to remove add-on trunks in case they are not incorporated into the load bearing frame structure.

7.7. Do not install any cargo saddle bags made of rigid material onto the luggage platform.

7.8. Use of titan and titan alloys for the skid plate, bumper and styling kit is prohibited.

8. ELECTRICAL EQUIPMENT

8.1. BATTERY

8.1.1. Free choice of battery brand and capacity.

8.1.2. Original battery installation location must not be changed.

8.2. ELECTRICAL HARNESS

8.2.1. Electrical cables and their sleeves must be original.

8.2.2. Auxiliary relays and fuses may be installed into electrical circuits of auxiliary lighting and navigation equipment.

8.2.3. All the ATVs must be equipped with ignition circuit breaker to stop the engine. Only the equipment listed in the ATV accessory catalogue is authorized for use. Ignition circuit breaker must attach to the sportsman outfit by means of a spiral cable at least 1 m long.

8.3. LIGHTING EQUIPMENT

8.3.1. Basic lighting equipment should be original, supplied by manufacturer for the specific model.

8.3.2. All the lighting equipment must be operational during all the contest period. Headlights and tail lights should be switched on continuously when driving through the special sector in contest mode.

8.3.3. Each ATV must be equipped with one or two **auxiliary** red lights operating as running lights and stop lights. These lights must include LED lamps with features as follows:

- Overall LED power consumption should be 2 W at least.
- Luminous flux 250 Lm at least.
- Area of every light should be 35 cm^2 at least.

Additional taillights can be combined in one casing under the condition that the surface of each optical element is no less than 35 cm^2.

It is prohibited to install additional tail lights of other colors or stroboscopic lights.

Additional tail/brake lights must always be on when the vehicle is moving along the Special Stage in the competition mode.

8.3.4. Additional lighting equipment is not limited.

8.4. LIFTER WINCH AND ADDITIONAL EQUIPMENT

8.4.1. Installation of only one lifter winch is permitted.

SPECIFICATIONS FOR THE SSV STANDARD CLASS

1. DEFINITION

1.1. Commercial SSVs with side-by-side seating, produced in quantity of no less than 2,000 identical units.

1.2. Engine – petrol-powered, naturally aspirated.

1.2.1. Engine capacity – not more than 1000 cm^3.

1.2.2. Number of cylinders – two at most.

1.3. Transmission 4x4 (4WD), stepless variable-speed gear CVT.

1.4. SSV width at wheels up to 1700 mm inclusive.

1.5. A competitor is responsible for proving the evidence of serial production of the entire SSV and its specific units and assemblies. The parts mounted onto the competitor's vehicle may be compared with the serially produced parts or with the manufacturer's catalogue during a technical inspection.

2. LIMITS OF PERMITTED MODIFICATIONS

2.1. An SSV must comply with the requirements of the "Mandatory safety equipment and gear" section of the present Technical Requirements and with the requirements listed hereunder.

2.2. Modifications and improvements of any part, unit or system which are not authorized by this Specification are strictly PROHIBITED.

2.3. Any worn or damaged part may only be replaced with an identical part.

2.4. A vehicle which design is recognized by the Technical Commission as dangerous will not be authorized by Sport Commissioners to compete.

3. ENGINE

- Only the original engines supplied by the manufacturer for this specific model are authorized for use.
- It is permitted to make compression adjustments and machine finish the surfaces of cylinder head channels and manifolds.

3.1. AIR INTAKE SYSTEM

3.1.1. Air filter casing – original.

3.1.2. Replaceable filter cartridge – free to choose.

3.2. COOLING SYSTEM

3.2.1. A regular cooling system radiator may be replaced with any other and/or it may be relocated from its original location. An additional radiator is permitted.

3.2.2. The relocated (additional) radiator and cooling system hoses must not be located within the area, limited by the main safety cage bars (space designed for team members).

3.2.3. The protective devices (plastic or metal screens) should be provided when relocating regular radiator and cooling system lines or installing an auxiliary radiator to eliminate cooling agent getting onto the driver in case of cooling line or radiator damage.

3.3. FUEL SYSTEM

3.3.1. Fuel system – original.

3.3.2. In case the filler neck is located on the open surface in the direction of vehicle travel, the gas tank cap must be equipped with additional protective element that cuts out accidental opening on impact.

3.4. EXHAUST SYSTEM

3.4.1. It is permitted to use silencers from the accessory catalogue with a sound level not exceeding 115 dB (Attachment 1).

3.4.2. The muffler end cap must be horizontal (inclination to the road surface not more than ±10°). The exhaust gases must be directed behind or to the side of the vehicle, but they must not raise a dust, soil the tires or braking system or disturb the driver. All sharp protruding edges must be rounded with a minimum 2 mm radius.

3.4.3. The exhaust pipe outlet must be located within the perimeter of the vehicle and not further than 10 cm away from this perimeter. In case the vehicle has side exit the exhaust pipe must be located inside the vertical plane going through the center of the wheelbase.

4. TRANSMISSION

4.1. Transmission – original.

4.2. Modification or replacement of drive and driven pulleys and belt of the variable-speed gear (CVT) is permitted if the original body is preserved.

5. FRAME, UNDERCARRIAGE, STEERING

5.1. Frame reinforcement is authorized with overlays, replicating the shape of the component to be reinforced.

5.2. Suspension parts should be original.

5.3. Reinforcement or modification of suspension parts is prohibited.

5.4. Shock absorbers are free to choose, but their quantity (one per a wheel) and original top and bottom mounting points should be preserved.

5.5. Installation of a steering wheel listed in the sport accessory catalogue is permitted.

5.6. Installation is authorized of a steering wheel spacer-adapter, quick-detachable also.

5.7. Reinforcement or replacement of steering rods is permitted. Steering rods to be replaced should be manufactured commercially for this specific SSV model and mounted onto original places.

6. WHEEL RIMS AND TIRES

6.1. Installation of wheel rims listed in the accessory catalogue for the specific ATV model is permitted.

6.2. Maximum rim diameter – 14”.

6.3. Only tires listed in the accessory catalogue for the specific model are permitted.

6.4. Additional locking of the tire sidewall to the wheel (beadlock) is permitted.

6.5. Only one or no spare wheel is allowed.

The spare wheel must be identical to the wheels installed on the SSV. The spare wheel mounting point should be outside the crew compartment. Spare wheel mounting bracket should provide reliable fastening of the spare wheel.

7. ROLL CAGE

7.1. Original safety cage reinforced in accordance with current Rules or safety cage homologated by Russian Automotive Federation (RAF) is mandatory.

7.2. Reinforcement of the main tube.

It is mandatory to install two additional diagonal elements crossing the main tube from top corners to the base of the original SSV security cages. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 6).

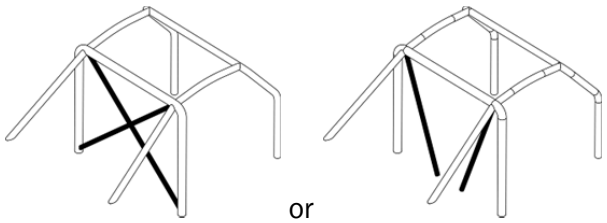


Figure 6

7.3. Roof reinforcement.

It is mandatory to install two additional diagonal elements to the standard safety SSV cage crossing the main tube top corners from one corner to the diagonal one. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 7).

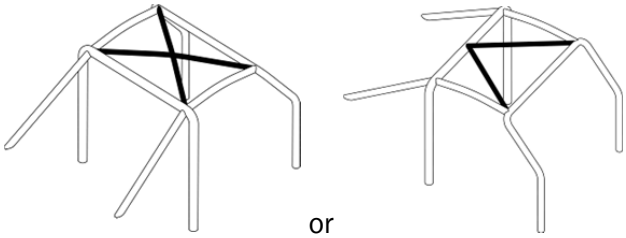


Figure 7

7.4. Windshield opening stand.

It is mandatory to install to the standard safety SSV cage the vertical bars that will cross the side gap of the cage from the top front corner to the lower point of the windshield support bar. Up to 20° bend in transverse plane is permitted. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 8).

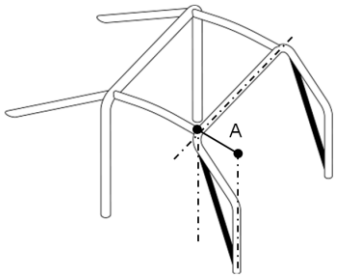


Figure 8

7.5. Door protection elements

From each side an SSV must be equipped with at least one dilatational tube going from the back bar of the cage to the windshield bar. Up to 15° downward angle of the protective element is allowed in relation to the back mounting. The tube must be extended to the external parts of the main safety cage. It should be located as high as possible, minimum 100 mm over the seat base, but not higher than a half height of the door opening. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 9).

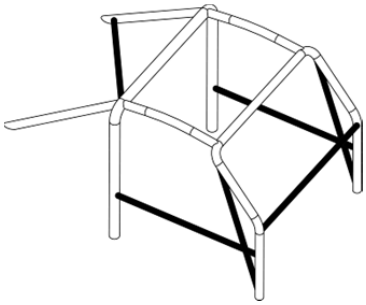


Figure 9

7.6. Reinforcement of the upper door opening

From each side an SSV must be equipped with the diagonal reinforcing element in the top back side of the door gap. The mounting points of the element must be located at least 200 mm away from the corner of the door gap. Tube specification – cold-tensioned steel, diameter 45 mm, 2.5 mm thick, steel grade 20. (Figure 10).

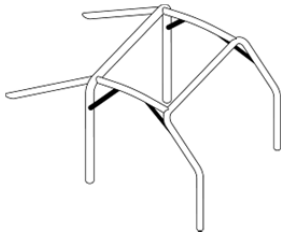


Figure 10

7.7. Safety belt mounting.

A transverse bar must be installed into the main bar to mount the sport safety belts (for SSV models without regular transverse bar). Mounting type: welding, clip fastening. Do not use transverse tube with holes, or with any fasteners that break its integrity. Do not use titanium and titanium alloys for roll cage elements. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20.

7.8. Additional elements.

It is permitted to reinforce the original security cage with additional elements (spacer bars, brace struts, backup bars) that improve safety of the team.

7.9. Crew protection.

It is recommended to put protective covers made of elastic non-flammable material over the places where the crew member bodies and their helmets may come in contact with the roll cage.

7.10. Windshield.

Polycarbonate windshield covering partially the front opening of the roll cage in its lower part or the full-size windshield (polycarbonate, triplex) are authorized for installation. The windshield must be mounted using industrially manufactured brackets.

7.11. Protective nets.

All SSVs must be equipped with the protective nets, attached to the side openings on each side of the SSV. Seen from the side, the nets must stretch from the steering wheel plane to the seat.
Nets specifications:

- Minimum stripe width: 19 mm.
- Minimum loop size: 25 X 25 mm.
- Maximum loop width: 60 X 60 mm.
- Tape material: nylon, polyester.
- Upper fastener – non-detachable.
- Lower fastener – quick-detachable.
- Fastex type plastic fasteners, minimum 30 mm wide, are allowed.

7.12. Roof.

An SSV must be equipped with a rigid roof (protection) above the crew compartment. The roof must cover the length from the front tube of the safety cage to the main tube of the cage. The width of the roof must be no less than the width of the top part of the main tube of the cage. Do not drill the roll cage main hoops for roof mounting. Mounting is recommended using steel clamps.

Roof material:

- Plastic – original roof from the manufacturer's catalogue.
- Steel – thickness not less than 1.0 mm.

- Aluminum – no less than 2.0 mm thick

7.13. Doors

It is mandatory to install factory-made metal doors designed for this SSV model.

7.14. It is permitted to remove external storage platforms under the condition that they are not an integral structural part of frame.

8. SKID PLATE, BUMPER, AND STYLING KITS

8.1. Free choice of style and mount type of skid plate.

8.2. Free choice of style and mount type of bumper.

8.3. Free choice of style and mount type of safety bars.

8.4. All external protective and styling kits elements must have no sharp cutting edges. Sharp protruding parts must be protected with safety cups.

8.5. All external safety elements must have a protective function only and must not be used for any other purpose (unit fastening, no coolant and oil transfer etc.).

8.6. **Use of titan and titan alloys for the skid plate, bumper and styling kit is prohibited.**

9. BATTERY

9.1. Free choice of battery brand and capacity.

9.2. Original battery installation location must not be changed.

10. LIGHTING EQUIPMENT

10.1. Basic lighting equipment should be original, supplied by the manufacturer for the specific model. All main lighting equipment must be maintained in working condition during the whole duration of the competition.

10.2. Headlights and tail lights should be switched on continuously when driving through the Special Section in competition mode.

10.3. Additional lighting equipment is not limited.

10.4. An SSV must have turn signals/hazard flashers.

10.5. Additional taillights.

Each SSV must be equipped with:

- two red lights functioning as tail lights,
- two additional red stop tail lights,
- lamp power al least 20 W/overall LED power consumption at least 2 W,
- luminous flux at least 250 Lm,
- area of every light should be 50 cm^2 at least.

Additional taillights must be installed on both top corners of the SSV safety cage roof and must be visible from the back (minimal mounting height 1.25 m).

Auxiliary rare lights may be assembled in one casing if the area of every sealed beam unit is 50 cm^2 at least.

It is prohibited to install additional tail lights of other colors or stroboscopic lights.

Additional tail/brake lights must always be on when the vehicle is moving along the Special Stage in the competition mode.

A crew with non-working additional taillights will not be allowed to start the Special Section.

11. SEAT BELTS AND SEATS

11.1. It is prohibited to use 3-point seat belts with anti-cinch.

11.2. Completing of an SSV with at least 4-points factory manufactured seat belts for all the crew members is mandatory.

11.3. Shoulder straps should be directed downwards and backwards and must be mounted at an angle of 10° maximum (Figure 11).

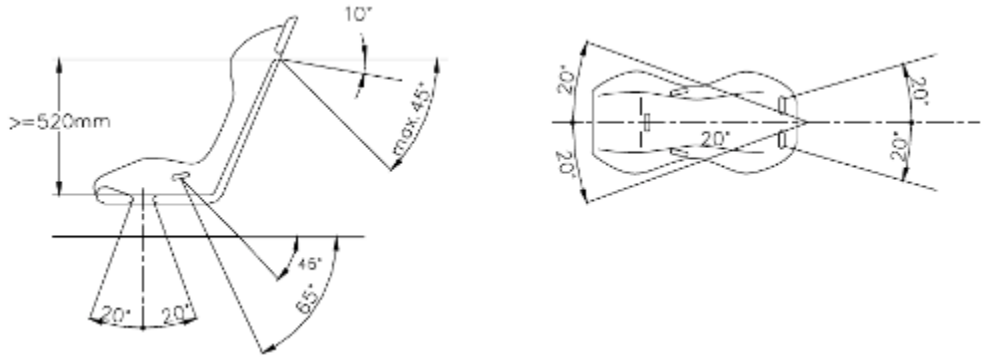


Figure 11

11.4. It is prohibited to mount the safety belts to the elements of quick-release seats.

11.5. Installation of the seats listed in the sport accessory catalogue is permitted.

If these seats are installed, the following conditions must be met:

- The brackets must be mounted to frame/chassis at least in 4 mounting points for each seat using the bolts with diameter no less than 8 and reinforcement plates.
- Minimum contact surface between the bracket, frame/chassis and reinforcement plate must be no less than 40 cm^2 for each mounting point.
- A seat should be fastened to a bracket in 4 points, 2 at the seat front and 2 on the back side, using bolts with minimum diameter 8 mm. The mounting points must be reinforced with plates built into the seats. Each mounting point must withstand the load of 15,000 N applied in any direction.
- The minimum thickness of brackets and reinforcement plates must be 3 mm for steel and 5 mm for lightweight alloy materials.

- Installation of the seats approved according to FIA standard 8855/1999 or 8862/2009 is recommended for all crew members. In this case it is mandatory to use brackets that are homologated to be used with this seat.

12. LIFTER WINCH AND ADDITIONAL EQUIPMENT

12.1. Installation of only one lifter winch is permitted.
It is prohibited to install the winch in the cabin.

SPECIFICATIONS FOR THE SSV SPORT CLASS

1. DEFINITION

1.1. Commercial SSVs with side-by-side seating, produced in quantity of no less than 2,000 identical units.

1.2. Engine – gasoline, naturally aspirated or gasoline turbocharged.

1.2.1. Engine capacity – not more than 1050 cm^3.

1.3. SSV width at wheels up to 1700 mm inclusive.

1.4. A competitor is responsible for proving the evidence of serial production of the entire SSV and its specific units and assemblies. It is allowed to compare the parts with serial parts or with the manufacturer's catalogue during the Technical Check.

2. LIMITS OF PERMITTED MODIFICATIONS

2.1. An SSV must comply with the requirements of the "Mandatory safety equipment and gear" section of the present Technical Requirements and with the requirements listed hereunder.

2.2. Modifications and improvements of any part, unit or system which are not authorized by this Specification are strictly PROHIBITED.

2.3. Any worn or damaged part may only be replaced with an identical part.

2.4. A vehicle which design is recognized by the Technical Commission as dangerous will not be authorized by Sport Commissioners to compete.

3. ENGINE

- Only the original engines supplied by the manufacturer for this specific model are authorized for use.
- It is permitted to make compression adjustments and machine finish the surfaces of cylinder head channels and manifolds.
- Using of modified or not original type fuel injection system control modules is permitted.

3.1. AIR INTAKE SYSTEM

3.1.1. Free choice of intake system.

3.2. COOLING SYSTEM

3.2.1. A regular cooling system radiator may be replaced with any other and/or it may be relocated from its original location. An additional radiator is permitted.

3.2.2. The relocated (additional) radiator and cooling system hoses must not be located within the area, limited by the main safety cage bars (space designed for team members).

3.2.3. The protective devices (plastic or metal screens) should be provided when relocating regular radiator and cooling system lines or installing an auxiliary radiator to eliminate cooling agent getting onto the driver in case of cooling line or radiator damage.

3.3. FUEL SYSTEM

3.3.1. It is allowed to use fuel system in accordance with Article 283 of FIA Technical rules.

3.3.2. In case the filler neck is located on the open surface in the direction of vehicle travel, the gas tank cap must be equipped with additional protective element that cuts out accidental opening on impact.

3.4. EXHAUST SYSTEM

3.4.1. It is permitted to use silencers from the accessory catalogue with a sound level not exceeding 115 dB (Attachment 1).

3.4.2. The muffler end cap must be horizontal (inclination to the road surface not more than ± 10°). The exhaust gases must be directed behind or to the side of the vehicle, but they must not raise a dust, soil the tires or braking system or disturb the driver. All sharp protruding edges must be rounded with a minimum 2 mm radius.

3.4.3. The exhaust pipe outlet must be located within the perimeter of the vehicle and not further than 10 cm away from this perimeter. In case the vehicle has side exit the exhaust pipe must be located inside the vertical plane going through the center of the wheelbase.

4. TRANSMISSION

4.1. Transmission – variable-speed gear (CVT), mechanical gearbox.

4.2. Replacement of the drive and driven pulleys and the belt of the variable-speed gear (CVT) is authorized if the original body is preserved.

5. FRAME, UNDERCARRIAGE, STEERING

5.1. Using of a space frame built in compliance with Article 283, 286 of FIA Specifications is authorized.

5.2. Regular frame reinforcement is authorized with overlays, replicating the shape of the component to be reinforced.

5.3. Suspension parts – free choice.

5.4. Free choice of shock absorbers – under the condition that the number of shocks is kept unchanged (one per wheel).

5.5. Installation of a steering wheel listed in the sport accessory catalogue is permitted.

5.6. Installation is authorized for a steering wheel spacer-adapter, quick-detachable also, listed in the sport accessory catalogue.

5.7. Reinforcement or replacement of steering rods is permitted.

6. BRAKE SYSTEM

6.1. The brake system is free to choose if the following conditions are matched:

- the system is activated and controlled by the driver only,
- it includes at least two independent circuits actuated with a single pedal.

6.2. Brake calipers must be taken from a factory-built car/SSV or from the spare parts catalogue for sport cars, maximum allowed number of brake pistons in the caliper – no more than 4.

6.3. Brake discs can be taken from the factory-built car/SSV or from the spare parts catalogue for sport cars. Maximum brake rotor diameter 330 mm.

7. WHEEL RIMS AND TIRES

7.1. Installation of wheel rims listed in the accessory catalogue for the specific ATV model is permitted.

7.2. Maximum rim diameter – 14".

7.3. Only tires listed in the accessory catalogue for the specific model are permitted.

7.4. Additional locking of the tire sidewall to the wheel (beadlock) is permitted.

7.5. No more than two spare wheels are allowed.

The spare wheels must be identical to the wheels installed on the SSV. The spare wheel mounting point should be outside the crew compartment. Spare wheel mounting bracket should provide reliable fastening of the spare wheels.

8. ROLL CAGE.

8.1. Original safety cage reinforced in accordance with current Rules or safety cage homologated by Russian Automotive Federation (RAF) is mandatory.

8.2. Reinforcement of the main tube.

It is mandatory to install two additional diagonal elements crossing the main tube from top corners to the base of the original SSV security cages. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 12).

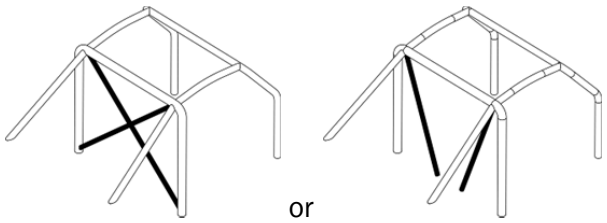


Figure 12

8.3. Roof reinforcement.

It is mandatory to install two additional diagonal elements to the standard safety SSV cage crossing the main tube top corners from one corner to the diagonal one. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 13).

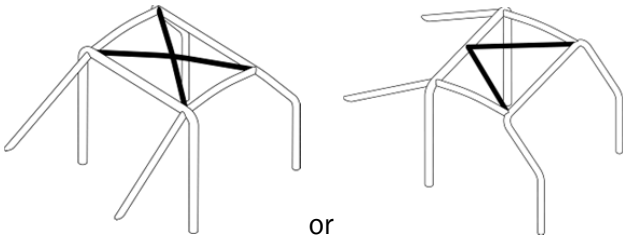


Figure 13

8.4. Windshield opening stand.

It is mandatory to install to the standard safety SSV cage the vertical bars that will cross the side gap of the cage from the top front corner to the lower point of the windshield support bar. Up to 20° bend in transverse plane is permitted. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 14).

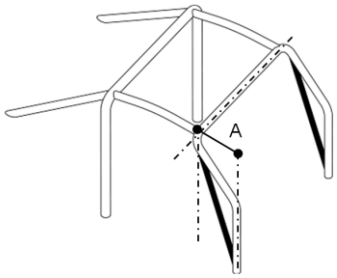


Figure 14

8.5. Door protection elements

From each side an SSV must be equipped with at least one dilatational tube going from the back bar of the cage to the windshield bar. Up to 15º downward angle of the protective element is allowed in relation to the back mounting. The tube must be extended to the external parts of the main safety cage. It should be located as high as possible, minimum 100 mm over the seat base, but not higher than a half height of the door opening. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 15).

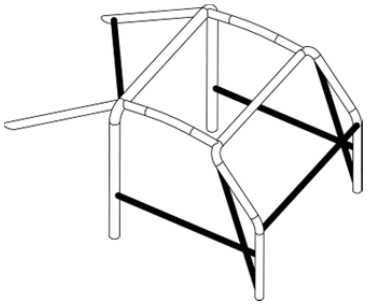


Figure 15

8.6. Reinforcement of the upper door opening

From each side an SSV must be equipped with the diagonal reinforcing element in the top back side of the door gap. The mounting points of the element must be located at least 200 mm away from the corner of the door gap. Tube specification – cold-tensioned steel, diameter 45 mm, 2.5 mm thick, steel grade 20. (Figure 16).

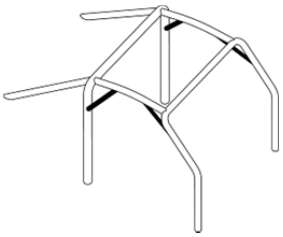


Figure 16

8.7. Safety belt mounting.

A transverse bar must be installed into the main bar to mount the sport safety belts (for SSV models without regular transverse bar). Mounting type: welding, clip fastening. Do not use transverse tube with holes, or with any fasteners that break its integrity. Do not use titanium and titanium alloys for roll cage elements. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20.

8.8. Additional elements.

It is permitted to reinforce the original security cage with additional elements (spacer bars, brace struts, backup bars) that improve safety of the team.

8.9. Crew protection.

It is recommended to put protective covers made of elastic non-flammable material over the places where the crew member bodies and their helmets may come in contact with the roll cage.

8.10. Windshield.

Polycarbonate windshield covering partially the front opening of the roll cage in its lower part or the full-size windshield (polycarbonate, triplex) are authorized for installation. The windshield must be mounted using industrially manufactured brackets.

8.11. Protective nets.

All SSVs must be equipped with the protective nets, attached to the side openings on each side of the SSV. Seen from the side, the nets must stretch from the steering wheel plane to the seat.
Nets specifications:

- Minimum stripe width: 19 mm.
- Minimum loop size: 25 X 25 mm.
- Maximum loop width: 60 X 60 mm.
- Tape material: nylon, polyester.
- Upper fastener – non detachable.
- Lower fastener – quick-detachable.
- Fastex type plastic fasteners, minimum 30 mm wide, are allowed.

8.12. Roof.

An SSV must be equipped with a rigid roof (protection) above the crew compartment. The roof must cover the length from the front tube of the safety cage to the main tube of the cage. The width of the roof must be no less than the width of the top part of the main tube of the cage. Do not drill the roll cage main hoops for roof mounting. Mounting is recommended using steel clamps.

Roof material:

- Plastic – original roof from the manufacturer's catalogue.
- Steel – thickness not less than 1.0 mm.
- Aluminum – no less than 2.0 mm thick

8.13. Doors

8.13.1. It is mandatory to install factory-made metal doors designed for this SSV model.

8.13.2. No doors may be installed on the cages with side protective elements (in accordance to Article 283 of FIA Technical Specifications).

8.14. It is permitted to remove external storage platforms under the condition that they are not an integral structural part of frame.

9. SKID PLATE, BUMPER, AND STYLING KITS

9.1. Free choice of style and mount type of skid plate.

9.2. Free choice of style and mount type of bumper.

9.3. Free choice of style and mount type of safety bars.

9.4. All external protective and styling kits elements must have no sharp cutting edges. Sharp protruding parts must be protected with safety cups.

9.5. All external safety elements must have a protective function only and must not be used for any other purpose (unit fastening, no coolant and oil transfer etc.).

9.6. Use of titan and titan alloys for the skid plate, bumper and styling kit is prohibited.

10. BATTERY

10.1. Free choice of battery brand and capacity.

10.2. If the battery is relocated, the battery mount should comply with the following requirements:

- The battery must be located on a metal tray with flanged edges supporting the battery from its sides.
- The battery must be fixed with at least one steel strap with isolating layer pads not less than 20x0.8 mm in size. It must span the battery and must be fastened to the body using bolts with minimum diameter 10 mm.
- The strap to body mounting areas must be reinforced using metal plates with minimum area 20 cm^2 and minimum thickness 2 mm.

11. LIGHTING EQUIPMENT

11.1. Basic lighting equipment should be original, supplied by the manufacturer for the specific model. All main lighting equipment must be maintained in working condition during the whole duration of the competition.

11.2. Headlights and tail lights should be switched on continuously when driving through the Special Section in competition mode.

11.3. Additional lighting equipment is not limited.

11.4. An SSV must have turn signals/hazard flashers.

11.5. Additional taillights.

Each SSV must be equipped with:

- two red lights functioning as tail lights,
- two additional red stop tail lights,
- lamp power al least 20 W / overall LED power consumption at least 2–3 W,
- luminous flux at least 250 Lm,
- area of every light should be 50 cm^2 at least.

The rear auxiliary lights should locate at the upper corners of the SSV roll cage and should be visible aback (minimum mounting height 1.25 m).

Additional taillights can be combined in one casing under the condition that the surface of each optical element is no less than 50 cm^2.

It is prohibited to install additional tail lights of other colors or stroboscopic lights.

Additional tail/brake lights must always be on when the vehicle is moving along the Special Stage in the competition mode.

A crew with non-working additional taillights will not be allowed to start the Special Section.

12. SEAT BELTS AND SEATS

12.1. It is prohibited to use 3-point seat belts with anti-cinch.

12.2. SSV must be equipped with at least 5-point factory-made seat belts for all team members.

12.3. Shoulder straps should be directed downwards and backwards and must be mounted at an angle of 10° maximum (Figure 17).

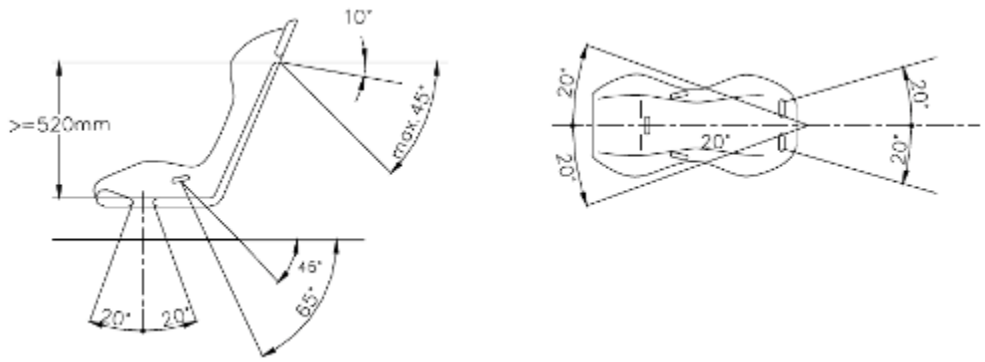


Figure 17

12.4. It is prohibited to mount the safety belts to the elements of quick-release seats.

12.5. Installation of the seats listed in the sport accessory catalogue is permitted.

12.5.1. If these seats are installed, the following conditions must be met:

- The brackets must be mounted to frame/chassis at least in 4 mounting points for each seat using the bolts with diameter no less than 8 and reinforcement plates.
- Minimum contact surface between the bracket, frame/chassis and reinforcement plate must be no less than 40 cm^2 for each mounting point.
- A seat should be fastened to a bracket in 4 points, 2 at the seat front and 2 on the back side, using bolts with minimum diameter 8 mm. The mounting points must be reinforced with plates built into the seats. Each mounting point must withstand the load of 15,000 N applied in any direction.
- The minimum thickness of brackets and reinforcement plates must be 3 mm for steel and 5 mm for lightweight alloy materials.
- Minimum longitudinal bracket dimension – 6 cm.
- Installation of the seats approved according to FIA standard 8855/1999 or 8862/2009 is recommended for all crew members. In this case it is mandatory to use brackets that are homologated to be used with this seat.

13. LIFTER WINCH AND ADDITIONAL EQUIPMENT

13.1. Installation of only one lifter winch is permitted.

13.2. It is prohibited to install the winch in the cabin.

SPECIFICATIONS FOR THE SSV SUPER SPORT CLASS

1. DEFINITION

1.1. Commercial SSVs with side-by-side seating, produced in quantity of no less than 2,000 identical units.

1.2. Engine – gasoline, naturally aspirated or gasoline turbocharged.

1.2.1. Engine capacity – not more than 1050 cm^3.

1.3. SSV width at wheels up to 2000 mm inclusive.

A competitor is responsible for proving the evidence of serial production of the entire SSV and its specific units and assemblies. It is allowed to compare the parts with serial parts or with the manufacturer's catalogue during the Technical Check.

2. LIMITS OF PERMITTED MODIFICATIONS

2.1. An SSV must comply with the requirements of the "Mandatory safety equipment and gear" section of the present Technical Requirements and with the requirements listed hereunder.

2.2. Modifications and improvements of any part, unit or system which are not authorized by this Specification are strictly PROHIBITED.

2.3. Any worn or damaged part may only be replaced with an identical part.

2.4. A vehicle which design is recognized by the Technical Commission as dangerous will not be authorized by Sport Commissioners to compete.

3. ENGINE

- Only the original engines supplied by the manufacturer for this specific model are authorized for use.
- It is permitted to make compression adjustments and machine finish the surfaces of cylinder head channels and manifolds.
- Using of modified or not original type fuel injection system control modules is permitted.

3.1. AIR INTAKE SYSTEM

3.1.1. Free choice of intake system.

3.2. COOLING SYSTEM

3.2.1. A regular cooling system radiator may be replaced with any other and/or it may be relocated from its original location. An additional radiator is permitted.

3.2.2. The relocated (additional) radiator and cooling system hoses must not be located within the area, limited by the main safety cage bars (space designed for team members).

3.2.3. The protective devices (plastic or metal screens) should be provided when relocating regular radiator and cooling system lines or installing an auxiliary radiator to eliminate cooling agent getting onto the driver in case of cooling line or radiator damage.

3.3. FUEL SYSTEM

3.3.1. Using of a fuel system complying with FIA Specifications Article 283 is authorized.

3.3.2. In case the filler neck is located on the open surface in the direction of vehicle travel, the gas tank cap must be equipped with additional protective element that cuts out accidental opening on impact.

3.4. EXHAUST SYSTEM

3.4.1. It is permitted to use silencers from the accessory catalogue with a sound level not exceeding 115 dB (Attachment 1).

3.4.2. The muffler end cap must be horizontal (inclination to the road surface not more than ± 10°). The exhaust gases must be directed behind or to the side of the vehicle, but they must not raise a dust, soil the tires or braking system or disturb the driver. All sharp protruding edges must be rounded with a minimum 2 mm radius.

3.4.3. The exhaust pipe outlet must be located within the perimeter of the vehicle and not further than 10 cm away from this perimeter. In case the vehicle has side exit the exhaust pipe must be located inside the vertical plane going through the center of the wheelbase.

4. TRANSMISSION

4.1. Transmission – variable-speed gear (CVT), mechanical gearbox.

4.2. Modification or replacement of drive and driven pulleys and belt of the variable-speed gear (CVT) is authorized if the original CVT body is preserved.

5. FRAME, UNDERCARRIAGE, STEERING

5.1. Using of a space frame built in compliance with Article 283, 286 of FIA Specifications is authorized.

5.2. Regular frame reinforcement is authorized with overlays, replicating the shape of the component to be reinforced.

5.3. Suspension parts – free choice.

5.4. Free choice of shock absorbers – under the condition that the number of shocks is kept unchanged (one per wheel).

5.5. Installation of a steering wheel listed in the sport accessory catalogue is permitted.

5.6. Installation is authorized of a certified steering wheel spacer-adapter, quick-detachable also.

5.7. Reinforcement or replacement of steering rods is permitted.

6. BRAKE SYSTEM

6.1. The brake system is free to choose if the following conditions are matched:

- the system is activated and controlled by the driver only,
- it includes at least two independent circuits actuated with a single pedal.

6.2. Brake calipers must be taken from a factory-built car/SSV or from the spare parts catalogue for sport cars, maximum allowed number of brake pistons in the caliper – no more than 4.

6.3. Brake discs can be taken from the factory-built car/SSV or from the spare parts catalogue for sport cars. Maximum brake rotor diameter 330 mm.

7. WHEEL RIMS AND TIRES

7.1. Installation of wheel rims listed in the accessory catalogue for the specific ATV model is permitted.

7.2. Maximum rim diameter – 14”.

7.3. Only tires listed in the accessory catalogue for the specific ATV model are authorized for use.

7.4. Additional locking of the tire sidewall to the wheel (beadlock) is permitted.

7.5. No more than two spare wheels are allowed.

The spare wheels must be identical to the wheels installed on the SSV. The spare wheel mounting point should be outside the crew compartment. Spare wheel mounting bracket should provide reliable fastening of the spare wheels.

8. ROLL CAGE

8.1. The regular roll cage modified according to this Specification or a roll cage homologated by RAF (Russian Automobile Federation) is mandatory.

8.2. Reinforcement of the main tube.

It is mandatory to install two additional diagonal elements crossing the main tube from top corners to the base of the original SSV security cages. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 18).

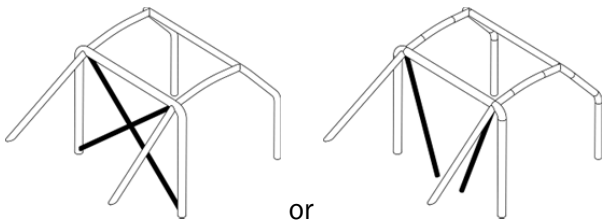


Figure 18

8.3. Roof reinforcement.

It is mandatory to install two additional diagonal elements to the standard safety SSV cage crossing the main tube top corners from one corner to the diagonal one. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 19).

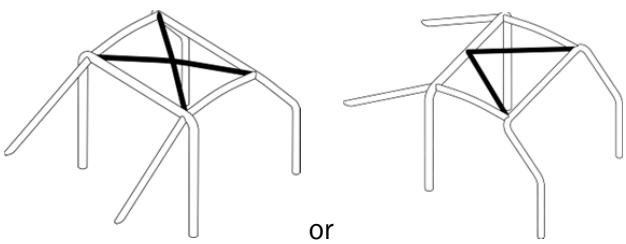


Figure 19

8.4. Windshield opening stand.

It is mandatory to install to the standard safety SSV cage the vertical bars that will cross the side gap of the cage from the top front corner to the lower point of the windshield support bar. Up to 20° bend in transverse plane is permitted. The members should be mounted by welding. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 20).

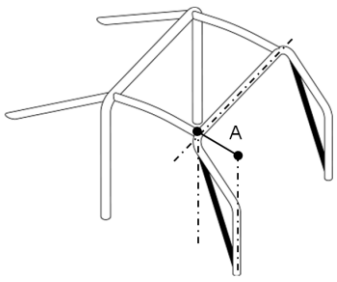


Figure 20

8.5. Door protection elements

From each side an SSV must be equipped with at least one dilatational tube going from the back bar of the cage to the windshield bar. Up to 15° downward angle of the protective element is allowed in relation to the back mounting. The tube must be extended to the external parts of the main safety cage. It should be located as high as possible, minimum 100 mm over the seat base, but not higher than a half height of the door opening. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20. (Figure 21).

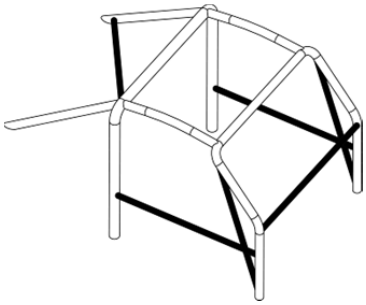


Figure 21

8.6. Reinforcement of the upper door opening

From each side an SSV must be equipped with the diagonal reinforcing element in the top back side of the door gap. The mounting points of the element must be located at least 200 mm away from the corner of the door gap. Tube specification – cold-tensioned steel, diameter 45 mm, 2.5 mm thick, steel grade 20. (Figure 22).

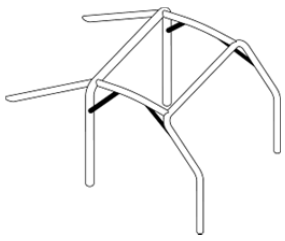


Figure 22

8.7. Safety belt mounting.

A transverse bar must be installed into the main bar to mount the sport safety belts (for SSV models without regular transverse bar). Mounting type: welding, clip fastening. Do not use transverse tube with holes, or with any fasteners that break its integrity. Do not use titanium and titanium alloys for roll cage elements. Tube specification – cold-tensioned steel, diameter 38 mm, 2.5 mm thick, steel grade 20.

8.8. Additional elements.

It is permitted to reinforce the original security cage with additional elements (spacer bars, brace struts, backup bars) that improve safety of the team.

8.9. Crew protection.

It is recommended to put protective covers made of elastic non-flammable material over the places where the crew member bodies and their helmets may come in contact with the roll cage.

8.10. Windshield.

Polycarbonate windshield covering partially the front opening of the roll cage in its lower part or the full-size windshield (polycarbonate, triplex) is authorized for installation. The windshield must be mounted using industrially manufactured brackets.

8.11. Protective nets.

All SSVs must be equipped with the protective nets, attached to the side openings on each side of the SSV. Seen from the side, the nets must stretch from the steering wheel plane to the seat.
Nets specifications:

- Minimum stripe width: 19 mm.
- Minimum loop size: 25 X 25 mm.
- Maximum loop width: 60 X 60 mm.
- Tape material: nylon, polyester.
- Upper fastener – non-detachable.
- Lower fastener – quick-detachable.
- Fastex type plastic fasteners, minimum 30 mm wide, are allowed.

8.12. Roof.

An SSV must be equipped with a rigid roof (protection) above the crew compartment. The roof must cover the length from the front tube of the safety cage to the main tube of the cage. The width of the roof must be no less than the width of the top part of the main tube of the cage. Do not drill the roll cage main hoops for roof mounting. Mounting is recommended using steel clamps.

Roof material:

- Plastic – original roof from the manufacturer's catalogue.
- Steel – thickness not less than 1.0 mm.
- Aluminum – no less than 2.0 mm thick

8.13. Doors

It is mandatory to install factory-made metal doors designed for this SSV model.

8.14. It is permitted to remove external storage platforms under the condition that they are not an integral structural part of frame.

9. SKID PLATE, BUMPER, AND STYLING KITS

9.1. Free choice of style and mount type of skid plate.
9.2. Free choice of style and mount type of bumper.
9.3. Free choice of style and mount type of safety bars.
9.4. All external protective and styling kits elements must have no sharp cutting edges. Sharp protruding parts must be protected with safety cups.
9.5. All external safety elements must have a protective function only and must not be used for any other purpose (unit fastening, no coolant and oil transfer etc.).
9.6. **Use of titan and titan alloys for the skid plate, bumper and styling kit is prohibited.**

10. BATTERY

10.1. Free choice of battery brand and capacity.
10.2. If the battery is relocated, the battery mount should comply with the following requirements:

- The battery must be located on a metal tray with flanged edges supporting the battery from its sides.
- The battery must be fixed with at least one steel strap with isolating layer pads not less than 20x0.8 mm in size. It must span the battery and must be fastened to the body using bolts with minimum diameter 10 mm.
- The strap to body mounting areas must be reinforced using metal plates with minimum area 20 cm^2 and minimum thickness 2 mm.

11. LIGHTING EQUIPMENT

11.1. Basic lighting equipment should be original, supplied by the manufacturer for the specific model. All main lighting equipment must be maintained in working condition during the whole duration of the competition.
11.2. Headlights and tail lights should be switched on continuously when driving through the Special Section in competition mode.
11.3. Additional lighting equipment is not limited.
11.4. An SSV must have turn signals/hazard flashers.

11.5. Additional taillights.

Each SSV must be equipped with:

- two red lights functioning as tail lights,
- two additional red stop tail lights,
- lamp power al least 20 W / overall LED power consumption at least 2–3 W,
- luminous flux at least 250 Lm,
- area of every light should be 50 cm^2 at least.

Additional taillights must be installed on both top corners of the SSV safety cage roof and must be visible from the back (minimal mounting height 1.25 m).

Auxiliary rare lights may be assembled in one casing if the area of every sealed beam unit is 50 cm^2 at least.

It is prohibited to install additional tail lights of other colors or stroboscopic lights.

Additional tail/brake lights must always be on when the vehicle is moving along the Special Stage in the competition mode.

A crew with non-working additional taillights will not be allowed to start the Special Section.

12. SEAT BELTS AND SEATS

12.1. It is prohibited to use 3-point seat belts with anti-cinch.

12.2. SSV must be equipped with at least 5-point factory-made seat belts for all team members.

12.3. Shoulder straps should direct downwards and backwards and must be mounted at an angle of 10° maximum (Figure 23).

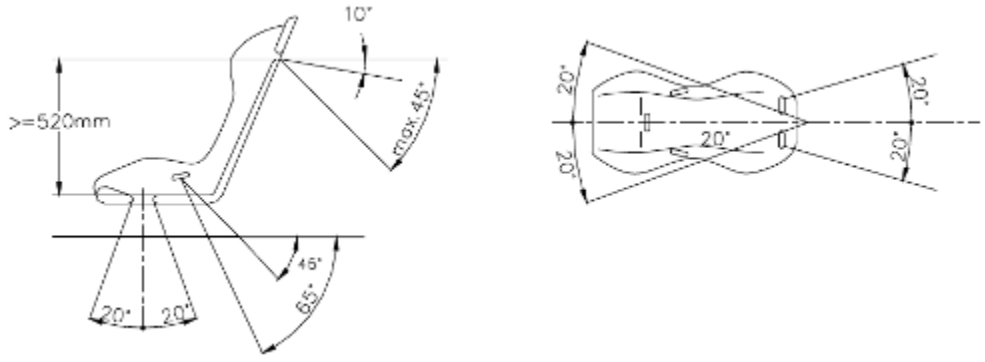


Figure 23

12.4. It is prohibited to mount the safety belts to the elements of quick-release seats.

12.5. Installation is authorized of the sport type seats with lateral support.

12.5.1. If these seats are installed, the following conditions must be met:

- The brackets must be mounted to frame/chassis at least in 4 mounting points for each seat using the bolts with diameter no less than 8 and reinforcement plates.

- Minimum contact surface between the bracket, frame/chassis and reinforcement plate must be no less than 40 cm^2 for each mounting point.
- A seat should be fastened to a bracket in 4 points, 2 at the seat front and 2 on the back side, using bolts with minimum diameter 8 mm. The mounting points must be reinforced with plates built into the seats. Each mounting point must withstand the load of 15,000 N applied in any direction.
- The minimum thickness of brackets and reinforcement plates must be 3 mm for steel and 5 mm for lightweight alloy materials.
- Minimal longitudinal size of each bracket – 6 cm.
- Installation of the seats approved according to FIA standard 8855/1999 or 8862/2009 is recommended for all crew members. In this case it is mandatory to use brackets that are homologated to be used with this seat.

13. LIFTER WINCH AND ADDITIONAL EQUIPMENT

13.1. Installation of only one lifter winch is permitted.

13.2. It is prohibited to install the winch in the cabin.

TECHNICAL REQUIREMENTS, MANDATORY EQUIPMENT AND GEAR FOR ADVENTURE CLASS

1. VEHICLE TYPES

1.1. All-terrain vehicle (ATV) – a vehicle not intended for permanent use on public roads having more than 3 wheels with the features as follows:

- the engine has two cylinders or less;
- the vehicle has two (2WD) or four (4WD) drive wheels;
- The engine crankcase should not locate behind the driver;
- driver seating – astride the seat;
- handlebar – motorcycle type;
- seating capacity – two at most.

1.2. Side-By-Side Vehicle (SSV) – a vehicle not intended for permanent use on public roads having more than 3 wheels with the features as follows:

- the engine has two cylinders or less
- the vehicle has four (4WD) drive wheels;
- side-by-side seating of driver and passenger;
- steering wheel and seats of automobile type;
- seating capacity – two to six;
- space frame for crew protection.

1.3. The following features of all ATV/SSV vehicles must match the official manufacturer's catalogue:

- Preservation of recognizable exterior specified in the manufacturer's catalogue.
- Conformity of the engine installed to the model specified in the manufacturer's catalogue.

2. COMPETITORS MUST HAVE:

2.1 ATV competitor gear:

- Helmets are mandatory. Helmets are recommended with a chin protection system.
- Using of protective goggles or shields (visors) for crash helmets is mandatory.
- A protective shield (visor) should not be an integral part of a helmet.
  - The eye protective material or goggles must be shatterproof.
  - Eye protection with visible damages (scratched, etc.) must not be used.
- Apparel: shirt, jacket, trousers, and gloves of strong fabric. Footwear: closed toe shoes, high boot-top motorcycle-type boots are recommended.
- Use of motocross type protective gear is recommended: chest and back protection, neck protection.

2.2 **SSV racer gear (pilot + all riders)**

- Helmets are mandatory for all the crew members.
- Helmets with built-in communicators are mandatory.
- Using of protective goggles or shields (visors) for crash helmets is mandatory.

- A protective shield (visor) should not be an integral part of a helmet.

- The eye protective material or goggles must be shatterproof.

- Eye protection with visible damages (scratched, etc.) must not be used.

• Apparel: shirt, jacket, trousers, and gloves of strong fabric. Footwear: closed toe shoes.

2.3 EACH SSV/ATV OF THE ADVENTURE SCORING GROUP MUST HAVE:

2.3.1. Automobile type first aid kit.

The first aid kit must locate in an easily accessible location and have a multiple use waterproof packaging (a dry sack, a sealed container).

All components of the first aid kit must be fresh with valid expiration dates and have visibly intact packing.

2.3.2. Industrially manufactured fire extinguisher:

• for an SSV – one or two fire extinguishers with minimum 2 kg total capacity.

• for an ATV – containing at least 1 kg of fire extinguishing agent.

The fire extinguishers must have pressure gauges and the expiry date mark (clearly visible).

Fire extinguishers must locate in the easily accessible places (ATV carrier, SSV safety cage). Fire extinguisher must be secured on the stationary bracket or on holder of an attached kind. Binding – quick-release metal or plastic straps. Fire extinguisher binding must be reliable and enable quick release of the extinguisher without using any tools.
Do not place the fire extinguisher into a SSV saddle bag, sack, or glove box.
One of the SSV fire extinguishers must be easily accessible for Pilot and Navigator seating at their places with safety belts fastened and with steering wheel mounted on its place.

Use of foam fire extinguishers is prohibited.

2.4. When an ATV/SSV is moving, all the auxiliary equipment, tools, auxiliary gear carried by an ATV/SSV must be reliably secured.

2.5 Each ATV/SSV must have an identification flag/pennant on a flexible flagpole.

Position height:

• ATV – 1.5 m at least over the surface of front or rare fender;

• SSV – 1 m at least over the top point of the roof surface.

Flagpole material – fiberglass, duralumin. Diameter – no more than 8 mm.

Flag/pennant material – fabric/flag grid.

Flag/pennant size – 200x200 mm minimum.

Flag/pennant color – bright colors are recommended.

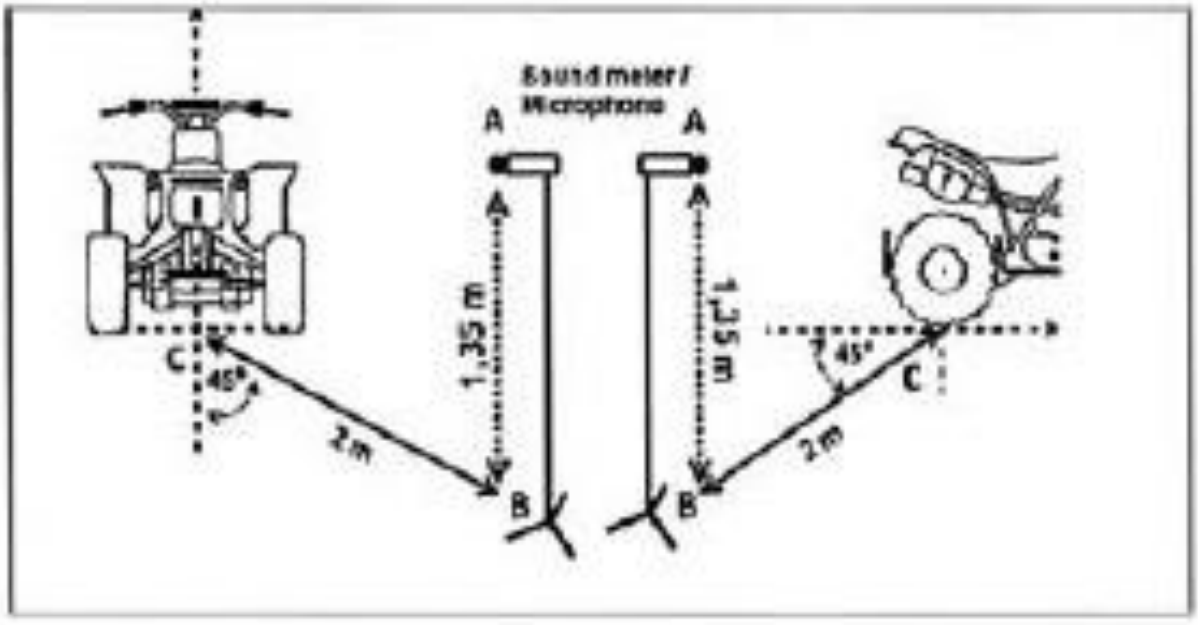
Pattern of the flag/pennant – at discretion of participants. Team branding is recommended.

2.7 Each SSV must be completed with two external rear view mirrors (one on right side, and one on the left side) providing the back view from SSV.

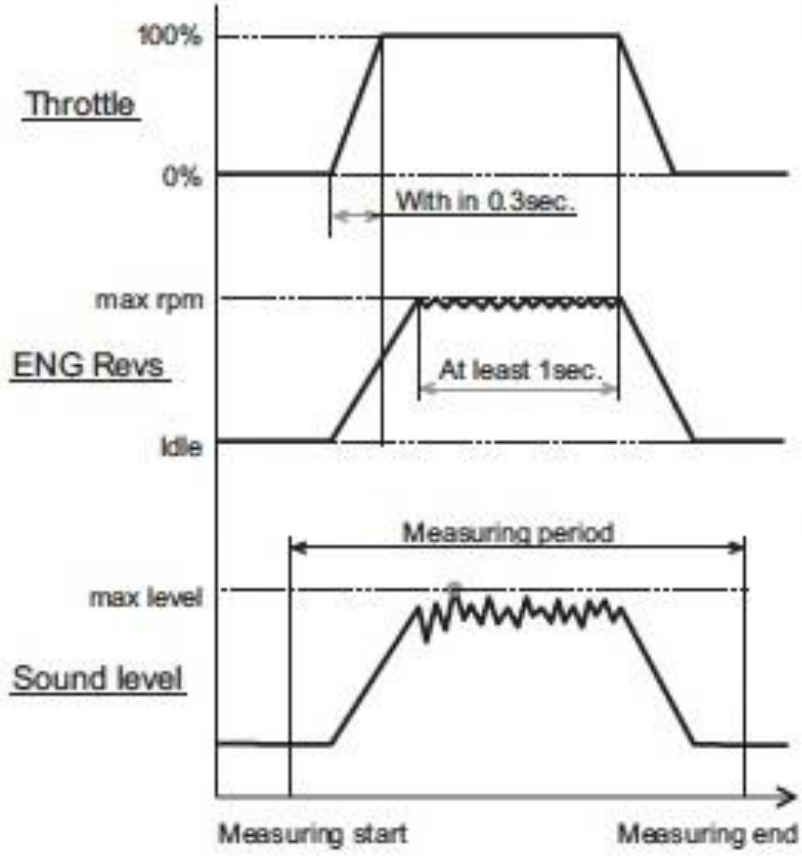
Each ATV must have at least one external rear view mirror providing the back view from ATV.

Every rear view mirror must have the reflective surface 90 cm^2 at least.

Attachment 1. Exhaust noise measurement plan.



THE IMAGE OF THE SOUND MEASUREMENT PROCEDURE



1. The Inspector shall open the throttle until full open throttle within 0.3 seconds.

2. And keep at the max rpm (at rpm limiter) at least 1 second. Then, release the throttle quickly.

3. The sound level is measured in the all period and the maximum level shall be recorded in any case. (automatically by the sound meter).

Attachment 2. International certification of helmets.

01.70 RECOGNIZED INTERNATIONAL APPROVING HELMET MARKING

Europe ECE 22-05 ‘P’, ‘NP’ or ‘J’

Japan JIS T 8133: 2007 (from 01.01.2010)

USA SNELL M 2010 and M 2015 (from 01.01.2010)

(See also International Helmet Standards on the diagram.)

INTERNATIONAL HELMETS STANDARDS
NORMES INTERNATIONALES DES CASQUES

ECE 22 - 05 "P" (EUROPE)
The ECE mark consists of a circle surrounding the letter E followed by the distinguishing number of the country which has granted approval.

E1 for Germany, **E2** for France, **E3** for Italy, **E4** for Netherlands, **E5** for Sweden, **E6** for Belgium, **E7** for Hungary, **E8** for Czeck Republic, **E9** for Spain, **E10** for Yugoslavia, **E11** for UK, **E12** for Austria, **E13** for Luxembourg, **E14** for Switzerland, **E15** (- vacant), **E16** for Norway, **E17** for Finland, **E18** for Denmark, **E19** for Roumania,**E20** for Poland, **E21** for Portugal, **E22** for the Russian Federation, **E23** for Greece, **E24** for Ireland, **E25** for Croatia, **E26** for Slovenia, **E27** for Slovakia, **E28** for Bielo Russia, **E29** for Estonia, **E30** (- vacant), **E31** for Bosnia and Herzegovina, **E32** for Letonie, **E34** for Bulgaria, **E37** for Turkey, **E40** for Macedonia, **E43** for Japan, **E44** (- vacant), **E45** for Australia, **E46** for Ukraine, **E47** for South Africa, **E48** New Zealand.

Below the letter **E**, the **approval** number should always begin with 05. Below the approval number is the serial production number. (Label on retention system or comfort interior).

(JAPAN) JIS T 8133 : 2007
(Label affixed inside the helmet).

(USA) SNELL M2010
(Label affixed inside the helmet).

For more details consult the F.I.M. Technical Rulebook