

## DMSB Technical Regulations 2019 for the Sidecar class

(as at 21.08.2019 - Changes are printed in *italics*)

In case of doubt only the German text of the Regulations is binding.

This document contains the DMSB Regulations and special admissions for the Sidecar Class, based on the FIA Regulations. Supplements/ changes/ homologations to/of the technical regulations may be published by the DMSB at any time to ensure a fair competition.

Everything that is not expressly authorized in these Regulations is forbidden.

Any permitted modifications may not result in any prohibited modifications or infringements of the Regulations.

Infringements of the Technical Regulations are covered in the corresponding Championship Regulations.

### 1. Regulations for Class SC F1 and F2

- a) The IDM SC is open for F1 sidecars and F2 sidecars, i.e. vehicles with three wheels and 2 of the tracks propelled by a combustion engine and forming a complete, integral unit. They must be driven exclusively by one rider and have a corresponding platform for one passenger.
- b) Engine  
Only 4 stroke engines of mass production with a Stocksport homologation are eligible.  
The engine fitted to the sidecar is decisive for the designation of the manufacturer.  
Engines for F1-SC as well as F2-SC from model year 2005 and later may be used in the DMSB-IDM division, provided that they were or are homologated by the FIM.
- c) All components and materials must comply with the used and homologated engine including its components, unless otherwise stated in these Regulations. The machining and/or modification of components through polishing, micro spraying, lightening or through any other means is only authorised if expressly permitted in following.
- d) When two manufacturers are involved in the construction of a sidecar, the name of both shall appear on the machine as follows:
  - The name of the chassis manufacturer
  - The name of the engine manufacturer.
- e) Dimensions for F1 sidecars: See figure B1  
Dimensions for F2 sidecars: See figure B2.  
(Figures: See DMSB Motorcycle Yearbook, Blue Section).
- f) The sidecar must be an integral part of the chassis or the machine. Swivel, pendulum or flexible sidecar steering are prohibited.
- g) Providing that the following Regulations are respected, the constructors are free to be innovative with regard to design and overall construction, respecting the relevant guidelines.
- h) Engines of class F2 are eligible in F1 chassis, all the guidelines for F1 machines are furthermore applicable.

### 2. Division into classes

F1 Sidecars	over 590 – 1000 cc, 4-stroke, maximum 4 cylinders over 750 – 1200 cc, 4-stroke, maximum 2 cylinders
F2 Sidecars	over 550 – 600 cc, 4-stroke, maximum 4 cylinders over 600 – 800 cc, 4-stroke, maximum 3 cylinders.

Any change of engine must be reported to the scrutineers.

The riders' clothing/ equipment must comply with FIM Article 1.65.

The rider's name must appear on the right arm of the rider's clothing near the wrist (sew-on label, stitching).

### 3. Minimum Weight

- a) F1 Sidecars  
Over 590 – 600 cc, 4-stroke, maximum 4 cylinders:  
The minimum weight including rider, passenger, rider/passenger equipment, oil, water and fuel is 370 kg and must be respected at all times during the event.  
A tolerance of minus 3 kg is accepted but only after the race.  
All other F1 Sidecars:  
The minimum weight including oil, water and fuel is 225 kg and must be respected at all times during the event. A tolerance of minus 3 kg is accepted but only after the race.
- b) F2 Sidecars  
Over 550 – 600 cc, 4-stroke, maximum 4 cylinders:  
The minimum weight including rider, passenger, rider/passenger equipment, oil, water and fuel is 350 kg and must be respected at all times during the event.  
A tolerance of minus 3 kg is accepted but only after the race.  
Over 600 – 800 cc, 4-stroke, maximum 3 cylinders:  
The minimum weight including oil, water and fuel is 186 kg and must be respected at all times during the event. A tolerance of minus 3 kg is accepted but only after the race.
- c) Additional weights are permitted but they must be properly and securely fixed by screws.  
Nothing, including any kind of liquids, may be added before the weighing.

During the practice sessions, each sidecar may be weighed for example in the pit lane. Riders and teams must accept this check but it will be done in such a way that the disturbance of the rider and of the teams will be reduced to a minimum.

### 4. Start numbers

All start numbers must be visibly displayed on the front 1 x in the centre and at least once on each side of the sidecar.

Height of the front figures: 160 mm

Height of the side figures: 150 mm

(free 1 x tail unit from rear view in driving direction 150 mm)

Colour combination F1-Sidecars: white background / black figures

Colour combination F2-Sidecars: black background / white figures

Accepted typefaces:

- Verdana / bold

- Futura Heavy / bold

Figures may only consist of one or two figures (#1-99).

See also DMSB Motorcycle Yearbook, blue section, drawings to the Technical Regulations.

### 5. Fuel

All sidecar engines must run on normal unleaded commercially fuel available from fuel stations.

The FIM Regulations are applicable.

Each participant / team must specify the used type of fuel / the exact type specification / the source of supply and the manufacturer at pre-event scrutineering in the scrutineering form and report any modifications to the chief scrutineer before the beginning of an event.

Fuel samples may be taken by the DMSB for checking purposes at any time during the event.

### 6. Component specification

- a) Any kind of modifications on any part and/or component not specified in the following is prohibited, unless explicitly otherwise stated in these Regulations.  
Everything that is not expressly authorized in these Regulations is forbidden.  
Any permitted modifications may not result in any prohibited modifications or infringements of the Regulations.
- b) Sidecars with a construction considered to be dangerous may be excluded from the competition and/or stopped from further participation.

- c) Any machine on which a loss of liquid has been noticed must promptly and without being asked be presented for a technical check.

## **7. Chassis / Frame construction**

- a) Track offset  
The track offset for F1 Sidecars is specified in figure B1.  
The track offset for F2 Sidecars is specified in figure B2.  
(Figures are published in the DMSB Motorcycle Yearbook, Blue Section).
- b) General dimensions  
All compulsory dimensions for F1 Sidecars are specified in figure B1.  
All compulsory dimensions for F2 Sidecars are specified in figure B2.  
(Figures are published in the DMSB Motorcycle Yearbook, Blue Section).
- c) The use of titanium in the construction of the frame, the suspension, the steering system, the handlebars, the swing arm spindles and the wheel spindles is forbidden. For swing arm and wheel spindles, the use of light alloys is furthermore forbidden. The use of titanium alloy nuts and bolts on structural components or on components exposed to high load, e.g. brake callipers or engine supports, is prohibited.
- d) Titanium test to be performed at the track: Magnetic test (titanium is not magnetic).
- e) Check with the 3% nitric acid test (Titanium does not react. If metal is steel, the drop will leave a black spot).
- f) Specific mass of titanium alloys 4.5-5, of steel 7.5-8.7 can be ascertained by weighing the part and measuring its volume in a calibrated glass filled by water (e.g. intake valve, rocker, connecting rod).
- g) In case of doubt, the parts concerned must be secured and tested at a Materials Testing Laboratory.
- h) The ground clearance (65 mm) for F1 is defined in figures B1 / B2, measured over the entire length and width of the machine or floor panel, with handlebars in straight position, ready to race with rider and passenger, including all liquids.  
No devices are permitted to reduce the ground clearance when riding during the course of the race/ practice. A tolerance of 5mm after the race is accepted. After a 'wet' race, this check is not performed but important differences will however not be tolerated.

## **8. Front wheel control / Front fork / Steering system**

- a) The machine shall be steered by a handlebar. Any kind of electronically and/ or manually controlled support/ power steering assist is not permitted.
- b) The handlebar extremities shall not be lower than the front wheel spindle nor be more than 500 mm behind the front wheel spindle in the straight ahead position.
- c) The steering axis shall not be offset by more than 75 mm from the front wheel centre line.
- d) The minimum angle of rotation of the handlebar on each side shall be of 20°.
- e) In whatever position, the handlebar extremities shall never touch the fairing and/or chassis.
- f) Whatever the position of the handlebar and the front wheel, there must be a space of at least 5 mm between the fairing / chassis / axle components and the ends of the handlebars or other steering systems, including any attachments thereto.
- g) The steering stop must be made of solid material.
- h) Steering dampers are free.

**9. Rear wheel control / Swinging fork / Drive**

- a) The drive shall be transmitted to the ground only through the rear wheel of the sidecar.
- b) Any traction control system is forbidden, unless any such system is homologated in the original CDI unit of the constructor (engine).
- c) Riding assistance systems are only authorised in connection with the engine management if homologated or if integrated in the KIT-ECU released by the manufacturer.
- d) Protection shields must be fitted for open transmission parts.

**10. Chassis / Spring systems / Suspension**

- a) Are free, including springs/ levers/ dampers and arrangement.
- b) The vertical travel of the front and rear wheel spindles under suspension action must be at least 20 mm. The sidecar wheel suspension must be made rigid (without spring system).
- c) The use of electric/ electronic and/or active suspensions is forbidden.

**11. Wheels / Rims**

- a) The maximum width of the front wheel rim must not exceed 9".
- b) The maximum width of the rim for the rear wheel and sidecar wheel must not exceed 11".
- c) The width is measured between the inner edges at the rim flange.

**12. Brakes / Brake system**

- a) Free, but only ferrous brake discs are allowed. Carbon brake pads are prohibited.
- b) The brake system must work upon all three wheels. A Sidecar wheel brake which must compulsorily be designed as two circuit system shall be fitted.
- c) The brake system must have two separate, operational circuits. It must be ensured that one of the circuits fully works upon at least two of the three wheels.
- d) If one system fails, it is compulsory that the other system works efficiently.
- e) An additional foot-handbrake combination is authorised.
- f) Pressure pipes in the brake unit must be installed so that they are protected.

**13. Tyres**

- a) The use of slick tyres is permitted (respecting the applicable speed rating).
- b) A tyre tread pattern is not compulsory. The choice of a certain tread pattern is at the discretion of the rider. In the case of a wet-race, the applicable regulations must be respected. Tyres may be modified or replaced (see also Technical Regulations for road racing Art. 01.51).
- c) The surface of a slick tyre shall contain 9 or more hollows at 120° intervals, indicating the limit of wear on the centre and both shoulder areas of the tyre. When at least 2 of these indicator hollows become worn on different parts of the periphery, the tyre shall no longer be used. Additional tread grooves, notches are only permitted on slicks (no profile tyres), provided that those were cut by the authorized specialized staff using a special tool, with a confirmed and documented release from the tyre manufacturer or his representative. This provision is not applicable for rain tyres. The use of rain tyres, slicks (no profile tyres) and intermediate is permitted. All tyres must comply with the general safety standards of the corresponding manufacturer. Any infringement in practice may result in the exclusion from the corresponding practice or in a drop of grid positions in the same event. Any infringement in a race may result in exclusion from the race classification. A fine may furthermore be applied.
- d) The tyre width for F1 Sidecars is specified in figure B1 and for F2 Sidecars in figure B2.

The maximum width of the tyre tread measured from the point where the wall of the tyre finishes and the tread pattern (ground contact) starts, to the point where the tyre tread stops on the other side and the wall of the tyre starts (only the section of the tread pattern normally in contact with the ground is measured) must comply with the dimensions given in figures B1 or B2 respectively.

- e) The tyres shall be measured when fitted to the corresponding rim, at an air-pressure of 1 bar and at ambient temperature.
- f) A minimum wheel clearance of 10 mm to every fixed part must be respected in any position of the suspension.
- g) Tyres warmers on the starting grid are not allowed.
- h) Tyre treatment  
The tyre tread may be treated respecting the provisions of Article 13, paragraph c.

#### 14. Foot and hand levers / Supports

All handlebar levers (clutch, brake) must be rounded and be ball ended, minimum diameter 12 mm which may also be flattened/rounded within the fairing.

**Handlebar levers / handlebars / foot levers may not be designed sharp-edged and may in no position touch parts of the fairing of the chassis.**

#### 15. Handlebars and handlebar levers

- a) The minimum width of handlebars is 450 mm. See figure B1 / B2.
- b) The handlebar grips must be attached in such a way that at least the minimum width for handlebars is reached when measured between the outside ends of the grips.
- c) Exposed handlebar ends must be sealed with a solid material or rubber covered.
- d) The repair by welding of light alloy handlebars is prohibited.
- e) Handlebar clamps must be very carefully radiused and engineered so as to avoid fracture points in the bar.
- f) Handlebars made of carbon or carbon/Kevlar or of other materials are not permitted.

#### 16. Fairing / Wheel protection

- a) The material is free, provided the provisions of Article 6, paragraphs b and c as well as figures B1 / B2 are respected.
- b) The front or inner mudguard must cover at least 100° of the tyre to the rear of the circumference of the wheel (2<sup>nd</sup> measuring point wheel spindle), beginning with the highest point of the tyre. Supports and mudguards must be fixed in a fracture-proof and solid way. Any kind of plastic cable clips are only permitted as additional protection / attachment support.  
If the front wheel is completely located within or covered by the fairing, a separation of solid material to the rider / chassis is sufficient.
- c) The rear wheel and sidecar wheel must be completely covered at the inside up to the level of the sidecar platform.
- d) The exterior of the sidecar wheel must be completely covered up to the wheel spindle centre (A cut-out in the wheel spindle nut/bolting only is permitted).
- e) Spoilers and other aerodynamic devices are authorised on condition that they do not exceed the dimensions according to figures B1/F1 and B2/F2 or extend beyond the overall dimensions of the bodywork and are an solid and integral part of the fairing / body (not screwed and not flexible). These shall not exceed the width / length / height of the fairing. See figure F1 – B1 and F2 – B2 in this Yearbook.

- f) **Windscreen**  
The windscreen edges and the edges of all other exposed parts of the streamlining must be rounded. See also figures B1 / B2 in this Yearbook respectively.
- g) **Catch tanks for oil and coolant / screw connections / oil train/filler plugs / oil lines / oil filters / oil bearing covers / screw connections must be secured.**  
In the area directly below the engine, the oil catch tank made of solid material must be constructed to hold, in case of an engine breakdown, at least 5 litres or the total oil and engine coolant capacity used in the engine. The catch tank must at least cover the complete engine block and have a minimum distance of 10 mm to it in all areas. It must be permanently leak-proof and have a leak-proof connection to the chassis. It must be at least 170 mm high measured from the chassis lower edge.  
Any passages for chain, chain tensioner, gearshift linkage, spindle link etc. must be sufficiently closed with rubber sealing bellows or sealing lips to avoid any leakage of spraying oil. Any holes to the engine mounts must also have a leak-proof sealing. The complete tank bottom surface must be completely provided with an oil binding fleece (preferably 3M HP 156) with double layers.  
The frontal edge of the oil catch tank must be extended from its bottom upwards up to 20 mm below the exhaust manifold.  
From a vertical view, the engine must be located completely inside the oil bay platform.  
The rear wheel must be protected from any possible oil spray. To ensure this protection, the engine and the rear wheel compartment must be separated. A solid separation wall must protrude with an overlapping of at least 50 mm exclusively to the inside of the oil catch tank.  
The tightness of this catch tank will be carefully checked at scrutineering. For this purpose, the required oil binding fleece must be removed but be carried on-site.

## 17. **Fuel tank**

- a) The fuel tank shall be sufficiently and independently protected from the ground. See also safety requirements for tanks.
- b) The fuel tank must be securely fixed or integrated to the machine. Seat tanks and / or auxiliary tanks are forbidden.
- c) All fuel tanks must be completely filled with fuel cell foam (preferably with "Explosafe®").
- d) Non-return valves must be fitted to fuel tank breather pipes.
- e) Filler caps, when closed, must be leak proof. Additionally, they shall be securely locked (unlocking device / wire lock) to prevent accidental opening at any time.
- f) The fuel cap must be fitted in such a way that it does not protrude in relation to the fairing / chassis.

## 18. **Seat / Rider and passenger's position**

- a) The rider's position, regardless of whether or not a riding seat is fitted, shall be such that the rider's feet are positioned behind the knees when looking in the riding direction. The rider shall neither be covered from above nor be attached to the vehicle in anyway (except make-and-break ignition).
- b) Passengers must be completely visible from the top and be able to lean out to either side of the Sidecar. For this purpose, the machine must be equipped with a suitable facility for the passenger to hold on to when leaning out.  
Free ends must have a radius of at least 20 mm and may not protrude beyond the exterior silhouette / appearance of the sidecar.
- c) It is forbidden to use transparent materials to evade these rules. Fitted supports attached to the exterior or upwards and protruding beyond the fairing are prohibited. See fig. B1 / B2.

## 19. **Wire loom**

- The wire loom is free.  
It must however have a technically professional design.

## 20. Battery

Design, size and arrangement are free.

The battery must be covered in such a way that neither the rider nor the passenger can come directly into contact with the battery or its contents.

If lithium-ion batteries are used, they shall be provided with appropriate and approved BMS protection circuit.

## 21. Cooling system – Oil cooler – Oil tank

- a) Radiators and/or oil coolers are free but they must not be mounted on or above the body of the sidecar. The location of the oil tank, the radiator and the oil cooler must be placed in a location where it is least likely to be damaged in an accident.
- b) Connectors, when closed, must be leak proof. Additionally, they shall be securely locked (unlocking device / wire lock) to prevent accidental opening at any time.
- c) The only permitted coolant is pure water. Additives are allowed to prevent corrosion, cavitation and abrasion, provided that they do not contain MEG (monoethylene glycol).
- d) Water pumps and their arrangement, drive and / or design are free. Coolant capacity, water pipe connections, radiator, container, fans are free regarding their design and arrangement. Sensors and/or thermostat may be modified, replaced or removed.

## 22. Airbox

- a) The air box may be modified or replaced.  
The air box must completely closed around the carburettor induction trumpet / injection system and the bell mouths, and the air inlet must be made through air inlet holes (see fig. C).
- b) The air inlet(s) into the airbox may be below the position of the inlet trumpet (engine air intake), provided there is an internal separation (wall) to the engine ventilation area. In the case of different inlet trumpet heights (above the throttle valve part), the separation wall / separation edge must be designed so that it is positioned at least 5 mm above the lowest point of lower edge of the inlet trumpet. Bores (minimum 6 mm in diameter) in the inlet trumpet are optional.  
(See fig. C – Alternative).
- c) A separate, elevated air intake (air scoop) is permitted for F1 sidecars. See however figure B1/F1.
- d) The intake area/ air funnel must be entirely within the airbox.
- e) The airbox drain pipes must be closed.
- f) The breather system (air box plus any other oil catch tank) must be constructed in such a way that it is capable of holding a minimum of 500 cc of discharged liquid in the event of a damage. A combination with other systems of whatever kind is not permitted.

## 23. Carburettor, if fitted

Must be as homologated for the engine of the constructor.

Carburettor jets and needles are free.

## 24. Fuel injection

- a) Must be as homologated for the engine of the constructor.
- b) Injection valves must be standard parts of the homologated engine / model.
- c) Intake trumpets and connections between injection body/throttle body and cylinder head are free.
- d) Electronic or mechanical enriching devices may be removed / modified. A combination with other systems of whatever kind is not permitted.



- e) Additional flaps with connected and associated components which have no direct connection to the speed control but serve exclusively for mixture enrichment and/or mixture optimisation may be removed, modified and/or rendered inoperative or fixed.
- f) Variable length fuel injection intake tract devices that function while the engine is operating are not allowed, unless homologated. Intake trumpets are free (above throttle part).
- g) The throttle bodies may not be replaced or modified. The fuel injection management computer chip (EPROM) may be replaced or modified. See Article 9, paragraph b and c.
- h) Throttle controls/throttle valves in carburettor and injection systems must be automatically self-closing when not held by the hand.
- i) The use of flash memory ("flash RAM") for fuel injection mapping only is permitted. An additional control unit for information on the fuel/air mixture may be mounted.

## 25. Fuel feed

- a) Fuel pipes and filters are free (respecting Article 6 b and c).
- b) Fuel pumps are free. Electric fuel pumps must be wired through a circuit cut-out which will operate automatically in the event the engine stops and/or of an accident and cuts off the function.

## 26. Cylinder head

- a) The cylinder head must remain as homologated, no material may be added or removed. See also Article 44.  
Solely the surfacing of the sealing face of the cylinder head/s is permitted but only up to minus 0.1 mm below the engine homologations specifications.
- b) Valves, valve seats, guides and support devices must completely remain as homologated for the engine/model. Valve spring retainer wedges valve plates and discs are free.
- c) The cylinder head gaskets are free.

## 27. Camshaft

- a) Must comply with the homologation of the engine manufacturer/model.
- b) Timing chain, toothed belt, tensioning device, sliding clamps, rollers and guides may be replaced or modified.  
The external timing chain tensioner must be secured.

## 28. Cam sprockets

Cam sprockets may be modified or replaced to allow the degreasing of camshafts.

## 29. Crankshaft

The crankshaft must remain as homologated. Balancing of the crankshaft is allowed, adjustments are only permitted through the boreholes etc. necessary for this purpose.

A weight tolerance of up to -5% is allowed as a consequence.

(The weight specified according to the homologation tolerance specifications of the manufacturer's engine is decisive).

No modifications to the flywheel are permitted.

No material may be added.

Interior engine balancing shafts with all the parts directly connected to them may be machined, modified and/or removed. (If existing)

## 30. Oil pumps / Oil lines / Engine lubrication

The engine-gearbox-oil lubrication system including oil pump is free. It is permitted to modify the oil pump and/or oil pan. Additional oil guiding panels and/or oil baffles are permitted.

## 31. Connecting rod

Connecting rods must remain as homologated for the engine / model of the manufacturer.  
Connecting rod screws/bolts are free.



**32. Pistons**

Pistons must remain as homologated for the engine / model of the manufacturer.

**33. Piston rings**

Piston rings must remain as homologated for the engine / model of the manufacturer.

**34. Piston pins / Securing**

Must remain as homologated for the engine / model of the manufacturer.

**35. Cylinder**

- a) Must remain as homologated for the engine / model of the manufacturer.
- b) The use of a cylinder base gasket including its configuration regarding material and dimensions is free.

**36. Engine – Crankcase**

- a) Must remain as homologated for the engine / model of the manufacturer.  
No modifications are permitted (including polishing and lightening).  
Oil carrying components susceptible to damage must be protected by additional fuses or covers.  
Reinforced engine side covers to protect the engine may be edited installed / modified. Engine side cover (ignition, clutch, alternator, and caps) must consist of the same material and may not be lighter than the standard part.  
The original covers may be modified.  
The sprocket cover may be removed and / or modified. Covers of a dry clutch may be modified / replaced for a better cooling.
- b) Breather connections may be modified or changed (provided the provisions of Article 22, figure C and C Alternative are respected). A combination with any other systems of the same type is prohibited.
- c) Oil lines containing positive pressure, if replaced, must be of reinforced construction, have swaged or treaded connectors and be appropriately secured.
- d) All machines which have lost liquids must immediately and without invitation leave the race track on the shortest way. A technical check must be carried out before the machine may rejoin the track.
- e) Repairs on the engine and on engine parts are permitted but any damage must previously be established and documented and the Chief Scrutineer must be fully informed to take a decision or give his permission.  
It is the Chief Scrutineer's decision to release the parts for repair.

**37. Transmission / Gearbox**

- a) Transmission/gearbox: No modifications are permitted (exception: shifting interior components to invert gear selection or left hand or right hand side control).
- b) The use of an ignition breaker and a shift indicator to optimize gear shift is permitted. Pinions, chain sprockets, chain pitch and size may be modified.
- c) The original position of the gearbox teeth may be aligned with balance discs.

**38. Clutch**

- a) The clutch must remain as homologated.
- b) Friction and drive plates as well as clutch springs may be replaced but their numbers and operating systems must remain as homologated.
- c) The arrangement of clutch control and the transmission to the clutch may be made mechanically or hydraulically. No additional electro-magnetic or pneumatic support is permitted.

## 39. Ignition / Engine management

- a) Ignition box and engine management/CDI must be as homologated.  
A kit control unit (CDI.ECU) is permitted provided that it is established that it is available and freely on sale on the European market. The official suggested retail price must not exceed the purchase price of 2,500 Euro exclusive of VAT. All the associated components (without wire loom) must be included.  
A corresponding source of supply, kind and type with price indication must be established to the satisfaction of the DMSB or the Scrutineers until 10<sup>th</sup> April 2015/2016.  
(In the case of guest starters or late entries before the corresponding first participation).  
See also Article 9, paragraph b and c.  
Wheel sensors (also sensors in the drive train) are not allowed, unless homologated for the engine.
- b) Wire looms, plug connections may be adjusted or replaced.
- c) Spark plugs, ignition cables, injectors and spark plug sockets are free.

## 40. Alternator / Generator / Electric starter

- a) The alternator must be as homologated and supply the battery with charging tension whilst the engine is running.  
All mechanical parts of the alternator / generator (regulator / stator / rotor / coil with windings etc.) must remain original and meet the manufacturer's homologation. It is, however, permitted to interrupt one current feed/ control on the exterior wiring to a coil / phase of the alternator.
- b) The electric starter shall be in place and work.
- c) The engine shall start on the grid with the electric starter for the warm up lap before the start of the race.

## 41. Exhaust system / Noise control

- a) The exhaust system is free, provided the provisions of Article 41, b to f, are respected.
- b) The exhaust pipe must not protrude by more than 25mm beyond the width of the Sidecar / fairing and must be protected by means of an additional deflector so that it cannot become entangled.
- c) The ends of the exhaust pipes must not have any sharp edges and be rounded.
- d) Exhaust pipes fitted to the side of the Sidecar must be covered so that it is impossible for the passenger to suffer burn injuries.
- e) The exhaust end must have a sufficient distance from the steering angle of the front wheel.
- f) Noise measurement will take place at the following speeds:  
F1 (over 750 cc up to 1000 cc at 5500 rpm, 4 cyl.)  
F1 (over 590 cc up to 749 cc at 6500 rpm, 3 cyl. / at 7000 rpm 4 cyl.)  
F1 (over 750 cc up to 1200 cc at 5000 rpm, 2 cyl.)  
F2 (over 550 cc up to 600 cc at 7000 rpm 4 cyl.)  
F2 (over 600 cc up to 800 cc at 6000 rpm 3 cyl. / at 5500 rpm 2 cyl.)  
(see also Art. 01.79 in the Technical Regulations for Road Racing in the DMSB Motorcycle Yearbook, Orange Section) according to the engine type.  
The maximum noise limit is 107 dB/A with a tolerance of plus 3 dB/A only after the race.  
Any infringement in practice may result in the exclusion from the corresponding practice or in a drop if grid positions in the same event. Any infringement in a race may result in exclusion from the race classification.

## 42. Mounting and connecting elements / Engine position

- a) The engine shall be positioned in such a way that the centre-line of the engine (by definition a position midway between centre lines of outermost cylinders for transversal engines, or the crankshaft for in-line engines) shall not exceed 160 mm beyond the centre-line of the rear wheel of the motorcycle.  
See figure B1 for F1 Sidecars

See figure B2 for F2 Sidecars.

- b) The engine shall be positioned in front of the rear wheel.
- c) Engine support elements / Connecting elements  
Standards supports/ connections (Annotation: e.g. screws, bolts, etc.) may be replaced.
- d) It is permitted to apply holes in these supports to accommodate safety wire.
- e) Support plates/ elements made of high-strength aluminium alloy are permitted, provided they comply with the required strength criteria and standards.

**43. The following items are free**

Lubrication, brake and damper liquids, colour design, exterior anodisation, labelling and heat protection mats.

**44. The following items may be modified or removed**

- Indicating instruments
- Control motors, control cables of the exhaust system
- Emission control items (anti-pollution) but only inside the corresponding system, a combination with other systems is however not permitted
- Lambda probe
- Catalytic unit
- Ignition lock and wiring
- Secondary air system, but respecting Articles 22 to 24

**45. The following items must be removed in accordance with paragraph a) or added in accordance with paragraphs b)**

- a) Rear view mirror  
Rear view mirrors are not allowed.
- b) Fog lamp  
Sidecars must be equipped with a functional rear facing red fog lamp provided with LED. It must be mounted to the rear vehicle fairing, at least 100mm above the ground and in the area between rear wheel and passenger platform. It must be ensured that it is not covered by components and/or the passenger and blaze highly visible to the rear with a maximum difference of 5° in relation to the vehicle longitudinal axis.  
It may and must only be switched on in the case of a wet-race or upon instruction of Race Control. Any failure to respect will result in a penalty.  
The following fog lamps must be used for the machines:  
ISA-EMS 90x90 ref. (6085-2)  
ISA-EMS 90x92 ref. (6085-0)  
SA-EMS 120x65 ref. (6085-4)  
LIFELINE 90x90 Radial rain light  
Beltenick Leo8172/600500006  
Schlüter Motorsport ref.600500006, 600500007

Possible suppliers

[www.beltenick.eu](http://www.beltenick.eu)  
[www.bits-racing.com](http://www.bits-racing.com)  
[www.isa-racing.de](http://www.isa-racing.de)  
[www.demon-tweeks.co.uk](http://www.demon-tweeks.co.uk)  
[www.rennsportshop.com](http://www.rennsportshop.com)

- c) The accelerator cables, *if present on the homologated engine*, must be designed as double cables.
- d) Sidecars must be equipped with a functioning ignition cut-out switch or button which is fitted to the handlebar within reach of the rider's hand positioned at the handle and interrupts the primary circuit.

- e) The ignition cut-out shall be placed as close as possible to the centre of the handlebar or chassis and shall be operated by a non-elastic string of adequate length and thickness and strapped to the rider's body. A spiral cable (similar to that of a telephone wire) of maximum 1 m extended length is permitted.

The light must be installed to the rear machine fairing, at least 600 mm above the ground and located in the area between the rear wheel and sidecar platform. It must be ensured that it is not obstructed by components and/or the passenger and that its light is clearly visible glowing to the rear with a deviation of maximum 5° in relation to the machine's longitudinal axis.

**Annotation:**

**Technical checks / Findings**

If the non-compliance of a participant's vehicle with the Technical Regulations is established for the first time and if, in the option of the Chief Steward, the infringement does not represent any advantage in performance for the participant concerned, a reprimand, a fine or a drop of positions may be considered sufficient.

If the non-compliance is established after a practice session / race of the second or last session and if, in the option of the Chief Steward, the vehicle did not comply in the previous sessions either, the Chief Steward may apply a penalty in compliance with § 118 German Motorcycle Sporting Code (DMSG), exceeding the aforementioned penalties.

The decisions shall be taken by Race Control / the Stewards / DMSB.