

DTM



**DTM
TECHNICAL
REGULATIONS
2017
ENGLISH**

FEEL THE ROAR

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PREAMBLES

These technical regulations are binding for all vehicles participating in the DTM 2017; they are issued by the Deutscher Motor Sport Bund e.V. (registration number 900/2017) and come into effect on 1st January 2017; they replace all other DTM technical regulations.

These regulations are approved by the FIA.

The DMSB will publish modifications, supplements and/or clarifications to these regulations in bulletins.

The following provisions form an integral part of these regulations:

- The following Articles 1 to 23
- Bulletins published by the DMSB (applicable from the date as specified in the corresponding bulletin).
- The appendices to these regulations
- The technical drawings Z1 to Z124
- The homologation regulations 2014/2017
- The supplementary provisions to the homologation regulations 2017 and the additional homologation regulations 2017
- The valid homologations of the vehicles for 2017
- All data stored on the DMSB server filed under “Mandatory Regulation Data Files 2017” and the dimensions, design prescriptions, weights, manufacturing procedures, manufacturers, materials and layouts prescribed therein.
All provisions that result from the application of the sporting regulations of the DTM 2017.

Minutes of working groups are explicitly not part of these technical regulations.

1. DEFINITIONS

Assemblies	Assemblies are: <ul style="list-style-type: none">• the engine• the gearbox• the differential• the steering• the clutch
Air box	All components located after the air restrictors for the combustion air and before the flanges surfaces of the inlet ports of the cylinder heads which have an influence on the airflow and/or the air-fuel mixture and form together an air tight volume or are located therein. The air restrictors are part of the air box.
Air restrictor	The part of a closed air duct mandatory with regard to its dimensions (along the areas/surfaces licked by the air stream). The air restrictors in the intake system for combustion air are part of the air box.
Active systems	<p>Any system or any function which monitors one or several parameters (value) in any way and uses one or several of the monitored values to control or influence vehicle components is considered to be an active system.</p> <p>The terms in connection with the control technology according to DIN19226 are the basis for the definition of an active system. The definition particularly includes anti-lock systems, traction control systems, automatic and semi-automatic gearboxes, electronically controlled differential systems or differential systems with automatic control, systems influencing shock absorbers, the suspension or the vehicle's ride height and controlled or regulated moveable masses.</p>
Aluminium	Alloys which refers to groups 1 to 7 according to DIN EN 573. For the interpretation of these regulations, MMC composites are not considered to be aluminium.
Appendix J	The Appendix J is the binding text of the technical regulations in the current FIA ISC.
ASN	The national motorsport body of any country affiliated to the FIA and recognised by the FIA as sole holder of the sporting power.
Supercharging	Any mechanical or thermo-dynamical means to increase the weight of the charge of the fuel-air mixture in the combustion chambers is considered to be supercharging. For the interpretation of these regulations, ram effect, immovable devices or dynamic effects in the intake and/or exhaust system are not considered to be supercharging.

Balance weights	Metal components which compensate the unbalance of rotating masses and serve no other additional purpose.
Automatic gearbox	A gearbox which is capable of changing gears based on any data constellation and without any intervention of the driver is considered to be an automatic gearbox.
Automobile	An automobile is a land vehicle running on at least four non-aligned complete wheels, of which two are used for steering and two for propulsion.
Base vehicle	The series production car used for homologation.
Blanking	Temporary and local modification of the shape of an air inlet with the sole purpose of modifying the cross-section of an air inlet
Bulletin	A document issued by the DMSB/ASN in which legally valid modifications of the regulations can be published.
Cockpit	The CAD volume within the contour according to article 13.
Roof	All points liked by the air stream of parts located above $z = 1000\text{mm}$. Exemptions: The rear wing EB17-028 Parts of the doors Transparent areas of the front, rear and side windows which are located above $z=1000\text{mm}$ are not considered to be part of the roof.
Data version	Numerical, alphanumeric, binary or hexadecimal data which must be calibrated by the competitor which are stored in the memory medium of the corresponding EB component and which are temporarily loaded into the working memory for the purpose of an individual adjustment/application. The extent of the calibrated data is defined by the manufacturer of the corresponding EB component (e.g. ECU-MS5.1, DDU, PCM, GCU, DRS, marshalling system) and must not be modified. Only the application tools released by the manufacturer of the corresponding EB component are eligible to adjust/apply the data.
Design line	A virtual circumferential line.
Diffuse air stream	Air stream/air which is not purposefully directed.
DMSB	Deutscher Motor Sport Bund e.V., holder of the sporting authority in Germany.
Plan view	Vertical view on the car from the top, in parallel to the axes.
Throttle unit	Component that controls through its movement the amount of air admitted to the combustion chambers through the variation of the cross section of the intake manifold.
Throttle valve	
Throttle slide	

Pressure accumulator	Any device or measure capable of pressurizing any substance with more or less than the atmospheric pressure of the ambient air and capable of providing this pressure over any period is a pressure accumulator.
DRS – Drag Reduction System	Mechanically/pneumatically controlled device which enables the temporary modification of the angle of attack of the flap (part of EB17-028) with regards to the main wing profiles chord whilst the car is in motion.
One	The numeral defining the number.
Standard component (EB17)	Component which must be obtained from the same supplier in identical configuration and whose use in unmodified form is mandatory for each competing race cars.
One-piece	Component which cannot be separated in two or more parts without the destruction of material.
Driver	The person entered for the corresponding race car at the administrative checks of an event.
Driving direction	For the interpretation of these regulations, the driving direction of the vehicle is defined by its forward movement (in race direction) with the steered wheels in the front and the powered wheels at the rear.
Vehicle	A vehicle is a locomotive device propelled by its own means, moving by constantly taking real support on the earth's surface, and of which the propulsion and steering are under the permanent control of a driver aboard the vehicle.
Vehicle test stand	A device on which driving and operating states of an automobile can be simulated without that the automobile is moving in accordance to the actual or a theoretical wheel speed. Not included in this definition of a vehicle test stand are: Wind tunnels, provided that no measurements are taken whilst the vehicle engine is running.
Fin	L- or T-shaped profile
Fire-resistant, flame-retarding	Components are considered to be fire-resistant or flame retarding if manufactured in compliance with the conditions in 3.1.1.
Shape tolerance Round/circular	In all section planes, perpendicular to the centreline, the circumferential line must be between two concentric circles with a specified distance (tolerance).

Free/exempted	<p>Free or exempted parts may be manufactured by any means and can be modified in all respects. It may also be replaced by another part or parts having the same function. Total freedom is granted as to the design. This means that the part can also be completely removed (not applicable for standard components).</p> <p>Free (free/exempted) components must totally comply with all the provisions of these regulations.</p> <p>The restrictions concerning the use of certain materials are not suspended through the application of the term „free“ and “exempted” in these regulations.</p>
Closed air duct	<p>A closed air duct comprises the maximum of one air intake port and the maximum of three air outlet ports. These ports must be connected by means of air duct walls made out of homogenous, air-tight materials. Composite materials are considered to be homogenous materials under the above definition.</p> <p>A closed air duct begins at the location where it connects to an air inlet.</p>
Hardtop	<p>Removable or retractable roof whose exterior contour is at no point significantly affected by the preload of an opening mechanism.</p>
Manufacturer	<p>For the interpretation of these regulations, a manufacturer is an automobile manufacturer with EC or KBA (German Federal Motor Vehicle Registration Agency) approval.</p>
Auxiliary assemblies	<p>Auxiliary assemblies are:</p> <ul style="list-style-type: none"> • the servo pump for the steering • the parts of the engine electric • the parts of the mixture control • the water pumps • the compressor for the paddle-shift system • oil pumps
Undercut	<p>Areas/surfaces of the scaled vehicle which in plan view are covered by areas/surfaces of the scaled contour.</p>
Homogeneous material	<p>A homogeneous material is a material of which all of its components have the same characteristics. A homogeneous metal alloy must be made out of components which completely combine or dissolve with each other when melted (homogeneous melt).</p>
Homologation	<p>Detailed description of components regarding their design, their material, the production process used and the number produced, certified by the manufacturer and submitted to the DMSB.</p>

Homologated standard production car	The contour serving as a basis for the scaling.
Cylinder capacity	The volume swept in equal shares (tolerance $\pm 1 \text{ cm}^3$) by the movement of the prescribed pistons inside the prescribed cylinders of the engine expressed in cubic centimetres (cm^3) is the cylinder capacity. In calculations of cylinder capacity, the number π is held to be 3.1416.
Actual weight	The actual weight of the car at the moment of weighing, with the driver and his personal equipment.
Contour	The contour is made up of all areas of the race car which may be licked by the air stream.
Axis system	A Cartesian coordinate system is applied for the race cars. It is defined as follows x-axis is the vehicle longitudinal axis, positive against the driving direction (= centre axis of the car in longitudinal direction) y-axis is the vehicle transversal axis with the direction resulting from the x- and the y-axis in a coordinate system rotating clockwise z-axis is the vehicle vertical axis showing positively upwards from the reference plane ($z = 0$).
Head restraint	An FIA approved head restraint complying with standard 8858-2002.
Transmission	All parts mounted behind the crankshaft which conduct engine forces to the wheels are parts of the transmission. The complete wheels themselves are not considered to be part of the transmission.
Crankshaft centre	The crankshaft centre is at half distance of the straight defined in its length by the bore centres of the engine cylinders with the furthestmost distance to each other as shown in drawing Z62.
Steering wheel	All components which are connected to the car through the quick lock device (EB17-047). Cables up to the first coupling joint are considered to be part of the steering wheel.
Listed component (LB17)	Component which is part of the Technical List prepared by the DMSB.
Air intake openings	An air intake is any opening in the contour to which a closed air duct is directly connected. The end of air intake openings are defined by the intersection which results when the plane KV, moved backwards, closes the opening completely for the first time. The area/surfaces situated in x-direction in front of the moved plane KV are considered to be part of the contour.

Air stream	The speed difference between the vehicle and the ambient air resulting from the forward movement of the driving car. Any air in a closed air duct.
Maximum contour	Closed volume which is defined by the permitted maximum dimensions of the race car.
Mechanical components	All components necessary for the propulsion, suspension, steering and braking, as well as all accessories, whether moving or not, which are used for the function of the mechanical components are considered to be mechanical components. Fluid lines and electrical wiring are not considered to be mechanical components for the interpretation of these regulations.
Metal alloy	A metal alloy is a homogeneous material produced through melting and composed of at least two chemical elements, the primary constituents of which are metals. Impurities appearing in the alloy as for example phosphorus, sulphur, nitrogen or iron substances unintentionally appearing during the melting process are not considered to be alloy elements. The description of the alloy is determined by its basic component/s respectively basic element/s. Examples for metal alloys are: alloyed chrome-molybdenum tempered steel 25 CrMo 4, alloyed case hardening steel 18DrNi8, chromium steel X 46 Cr 14, magnesium wrought alloy MgAl8Zn.
Monocoque	Standard component EB17-001 without roll over structure EB17-001.1.
Engine	Cylinder block, cylinder heads, crankshaft, conrods, pistons, camshafts, inlet and outlet valves with springs, valve train including belts and /or chains, belt pulleys, pinion gears including covers, dry sump, cylinder head cover, water pumps, oil pumps, intake manifolds, intake system, throttle body, fuel-injection system, engine wiring loom and all sensors which are necessary for the operation of the engine. Irrespective of this definition, additional components may be homologated. Irrespective of this definition, the provisions specified in Art. 5.4 are applicable for the determination of the engine weight.
Engine block	Component made out of aluminium which comprises the cylinders and the water jacket.

Engine separation plane	An engine separation plane is defined in order to determine the upper and lower engine weight in accordance with Article 5.4. The characteristics of the engine separation plane through the engine are defined in drawing Z63. All the engine components according to Article 5.4 situated above this engine separation plane will be taken into consideration for the engine weight above the engine separation plane. All engine components according to Article 5.4 intersecting the engine separation plane due to their layout will be taken into consideration for the engine weight below the engine separation plane.
Exclusion of standards in these regulations	Any prescriptions, definitions and specifications from rules and standards which have not been published by the FIA or by the DMSB (e.g. DIN, EN, ECE, EG, SFI etc.) are only applicable if specifically referred to in the FIA or DMSB regulations and/or in the present regulations or if their application imperatively results from public law.
Original	All parts which are identical in contour and material to parts from an identical standard production car of the same type homologated by the DMSB are deemed to be original.
Personal equipment	<ul style="list-style-type: none"> • Driver overall, balaclava, gloves and underwear • Shoes and socks • Helmet • Head restraint (e.g. HANS®, Head and Neck Support) • Microphone and earphones/loudspeaker • Cooling vest without inlet pipes
Program version	Functional software of a control unit defining all the control and control algorithms of an electronic device. The functional software is defined by the manufacturer of the corresponding device (e.g. ECU-MS5.1, DDU, PDM, GCU) , marshalling system, ADR) and must not be modified in whatever kind.
Anti-roll bar	EB17-052.100 (front) and EB17-053.100 (rear) Purely mechanical part (without pressure accumulator and components under current), that, through the vertical movement of one wheel, takes influence on the wheel load of the opposite wheel on the same axis.
Wheel	EB17-072 (rim) with all removable add-on parts (valve, balance weight, tire pressure sensor) and a tire fitted in compliance with the technical and sporting regulations.
Wheel centre axis	The centre axis of each wheel is defined by the half distance between two planes running in parallel to the VA plane and which are in contact with the foremost and the rearmost point (in x) of the wheel.

Wheel suspension	All parts whereby wheels are suspended to the vehicle and which are modifying the initial tension of suspension springs and/or are moving an anti-roll bar are parts of the wheel suspension. The suspension must be exclusively composed of the standard components (front: EB17-052, rear: EB17-17.053) as well as LB17-52.200.xx and SB19-002., the list components according to LB17-020, the inner sleeve (10.5.1), the outer sleeve (10.5.2) and sleeves according to 10.6b as well as parts listed in the specification sheets under EB17-052 und EB17-053.
Wheel cutout panels	The part of the contour to be seen from $z=275$ in bottom view located of the defined area, below the design line.
Wheel arch	The part of the contour within the defined area to be seen from $z = 275$ in bottom view, below the design line.
Wheelbase	The wheelbase is the dimension x between the central line of the front wheels (VA plane) and the central line of the rear wheels (HA plane).
Wheel carrier/ Uprights	EB17-052.01 (front), EB17-053.01 (rear). One-piece casting to which the wheel bearing is fixed.
Rear view	View of the car from the rear, in parallel to the axes.
Side view	View of the car from the side, in parallel to the axes. If no specific side (right or left) is indicated, the side view of any side is relevant.
Sensor	A sensor is a system or a device which establishes parameters and/or the condition of the vehicle or of vehicle components, without itself taking any influence on the parameters and/or the condition.

Series production car	<p>For the interpretation of these regulations, a series production car is any passenger car with a KBA (German Federal Motor Vehicle Registration Agency) or an EEC registration for German road traffic, distributed through the normal commercial channels of the manufacturer and which has been built within 12 consecutive months in at least 10,000 examples and with the following components identical in design and material:</p> <ul style="list-style-type: none"> • Doors • Engine bonnet • Boot lid • Wings/side panels • Front and rear end plates • Roof panel with or without sunroof • Windscreen, side and rear windows • Front and rear bumpers including decorative strips and licence plate brackets, if fitted. <p>The outer design of the series production car is defined by the design of its contour without any add-on components (as for example rear spoiler, antennas, decorative strips, roof rails, exterior mirrors, etc.). The assessment which add-on components are not part of the contour is at the discretion of the DMSB during homologation.</p> <p>After scaling, the series production car determines the contour of the race car above the design line.</p>
Sintered materials (Intermetals / ceramic)	<p>Sintered materials (intermetallics/ceramics) are materials manufactured through a sintering process.</p>
Scaled vehicle	<p>Series production cars which have been scaled as specified in Art. 3.5.</p>
Special approval	<p>Waiver for a vehicle which does not comply in one or several points with the provisions of these regulations in its base or competition version.</p>
Specification component (SB17)	<p>A component which is subject to construction, design and material specifications which must be implicitly respected.</p>
Specification sheet	<p>Binding component and installation specifications which are part of the technical regulations are filed on the DMSB server in the folder "mandatory regulation files"</p>
Steel	<p>Ferrous and carbon alloy which contains less than 2.06 % (by mass) of carbon and in which the mass portion of ferrous is greater than of any other element. Minimum volume weight: 7.5 gr/cm³.</p>

Shock absorber	EB component (EB17-030/031) dampens the vibrations of the sprung mass.
Systems	<p>For the interpretation of these regulations, each of the following components is considered to be a separate system:</p> <ul style="list-style-type: none"> • Suspension front axle (EB17-052 with all sub-items) • Suspension rear axle (EB17-053 with all sub-items) • 3rd element front axle (EB17-052.200) • Anti-roll bar front axle (EB17-052.100) • Anti-roll bar rear axle (EB17-053.100) • Steering (EB17-008 and EB17-057) • Brakes with brake circuit front axle (incl. EB17-025.01) • Brakes with brake circuit rear axle (incl. EB17-025.02) • Clutch (EB17-005) • Gearbox with gear shift mechanism (EB17-003 and EB17-016) • Differential (EB17-003) • Engine electronic control unit (ECU) (EB17-022) • Gearbox control unit (GCU) • Throttle unit • Engine • Marshalling system (EB17-034)
Fuel compartment	The first enclosing volume of the fuel cell I (EB17-018).
Telemetry	The transmission of data and/or signals of any kind from or to a station/device outside the car itself or vice-versa whilst the competition car is moving is telemetry. The transmission of voice communication and of images from an official TV camera as well as the data transmission of the marshalling system and the impulse of the official lap trigger is not considered to be telemetry.
Door	The part of the bodywork that opens to give any person access to the cockpit is a door. For the interpretation of these regulations, hatchbacks are not considered to be doors.
Bottom view	View of the car from the bottom, in parallel to the axes.

Composite material	<p>A material which comprises one or more of the following fibre materials is considered to be a composite material:</p> <ul style="list-style-type: none"> • Carbon fibres • Aramid fibres • Glass fibres <p>It is made from at least two separate components, the association of which gives properties to the whole that none of the components possesses separately.</p> <p>Example: Glass fibre + plastics = glass fibre reinforced plastic (GFRP). If different parts consist of one or more continuous laminates (plies), they are considered to be bonded together for the interpretation of these regulations.</p>
Front view	View of the car from the front, in parallel to the axes
Race car	Scaled vehicle which has been designed and built in compliance with the provisions of these regulations.
Decorative strips /trim moulding	Decorative strips /trim mouldings are all connected, bonded or screwed parts following the contour above the design line and with a height and/or width of less than 25 mm.
Additional homologation	Binding supplements to the base homologation. The affected components shall be deposited with the DMSB in the form of a reference part, CAD-data and/or drawing.
Cylinder head	Component in which the valve seats (inlet and outlet) of the engine are accommodated.

2. GENERAL REGULATIONS

2.1 Role of the DMSB

These technical regulations are issued by the DMSB.

2.2 Amendments to the regulations

Changes to these regulations which, in the opinion of the DMSB, will result in a significant modification of the technical design of the vehicles will be published until the 1st of June 2017 at the latest to come into force for the 2018 season at the earliest.

Changes for safety reasons may be issued and come into force at shorter notice. It is at the discretion of the DMSB to decide whether a change becomes necessary for safety reasons.

2.3 Dangerous construction

The stewards of the meeting may exclude a vehicle whose construction is deemed to be dangerous.

2.4 Compliance with the regulations

The vehicles must comply with these technical regulations in their entirety at all times during a DTM Event.

Should a competitor wish to introduce a new design or feel that any aspect of these regulations is unclear, clarification may be sought from the DMSB.

If the request for clarification relates to any new design or system, the request must include:

- A full description of the design or system;
- Drawings and schematics;
- The competitor's opinion concerning his belief that the corresponding parts/design is admissible in compliance with these regulations;
- The competitor's opinion concerning any possible long term consequences which may come from using and developing any such new designs;
- A precise description in which way the new design will enhance the performance of the car.
- The request must be submitted at latest 6 weeks before the first scheduled use.

The design freedom given by the following regulations shall only be used if none of the parameters fixed in a valid homologation are modified as a result.

2.5 New systems, technologies and interpretations

Any system, any technology, any interpretation or any procedure not specifically covered by these regulations, but which is deemed permissible by the technical delegate of the series, will only be admitted until the end of the season during which

the system/the new technology/the interpretation/the procedure was presented to the technical delegate of the series.

The technical delegate will inform the DTM commission accordingly about the system/technology/interpretation/procedure in question and about its working principles.

Following this, the DTM commission will evaluate whether the system/the technology/the interpretation/the procedure is in line with the philosophy of these regulations. If it is felt that this is not the case, it may be prohibited for the following years. The corresponding competitor will then be required to submit a full description of the system to the DMSB.

Any system, any technology, any interpretation or any action which is not explicitly described or admitted in these regulations and which in the opinion of the technical delegate of the series is not in accordance with the regulations may not be used.

2.6 Duty of competitor

It is the duty of each competitor to prove that his vehicle complies with these regulations in their entirety at all times during an event.

The design of the car, of its components and of all systems must demonstrate their compliance with the provisions of these regulations by means of physical inspection (L/H/W measurements, weighting, material analysis).

2.7 Eligible vehicles

A race car prepared in compliance with these regulations may only be used in DTM Events if on the 1st of March 2017 at the latest:

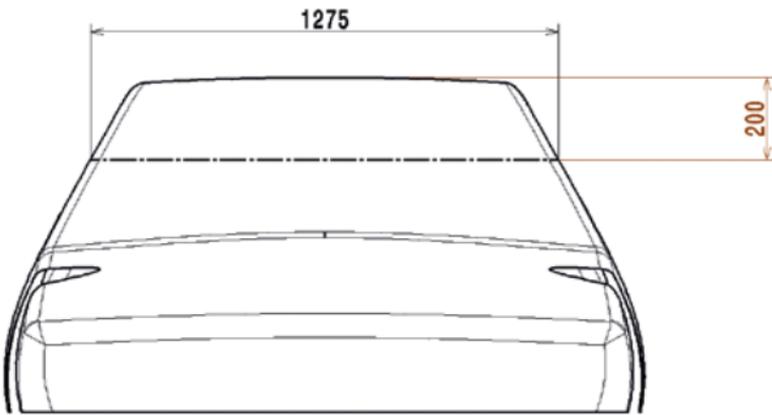
- a) the DMSB has issued a homologation for a series production car of the same manufacturer and of the same model as a base vehicle.
- b) the DMSB has issued a homologation 2017 for the race car.

The DMSB can also permit vehicles to participate in a DTM event for which a homologation has been issued at a later date.

The following requirements must be met by a series production car that shall be homologated as a base vehicle for a DTM race car:

- a) At least 10,000 identical (see homologation requirements 2017) units (vehicles) must have been produced in 12 consecutive months. This minimum number must have been produced before the 31st of December of the year in which the homologation application is submitted to the DMSB.

- b) The series production car must have an EEC registration as a four- or five-seater vehicle. It must have two seats side by side in the front and at least two seats side by side in the back of the car.
- c) The overall length of the series production car - measured in accordance with Guideline 2007/46/EEC - must be at least 4,300 mm and maximum 4,850 mm.
- d) The overall height of the series production car - measured in accordance with Guideline 2007/46/EEC - must not exceed 1,550 mm.
- e) The overall width of the series production car - measured in accordance with Guideline 2007/46/EEC – must not exceed 1,900 mm. The width thus defined refers to the vehicle without rear view mirrors.
- f) The minimum width of the series production car in front view, 200 mm below the KD plane, is 1,275 mm.



Z1 – Minimum width of the series production car at cockpit height

- g) The series production car must have a solid roof, with or without sunroof. For the interpretation of these regulations, a hardtop is considered to be a solid roof.
- h) The series production car may have the maximum of two doors on either side of the vehicle.

The homologation of vehicles which do not comply with one or more of the aforementioned conditions may be granted in form of a special admission. The DMSB DTM Commission alone is entitled to approve a request for a special admission. It is the responsibility of the applicant to submit the DTM Commission all the requested data and information about the vehicle in question. The approval of a special admission may be subject to respecting technical conditions which may differ from the provisions and freedom granted in these regulations.

The DMSB has the right to check compliance with the specifications made by a manufacturer on the homologation form at any time and without giving reasons, by using a series production car of the same type selected by the DMSB. The DMSB has the right to cancel a homologation should the specifications made by the manufacturer turn out to be incorrect.

2.8 Dimensions, measurements and tolerances on the race car

All the components must be designed so that they comply with the relevant dimensions required by these regulations without tolerances. The design must be submitted to the DMSB in form of a CAD data set submitted at the latest at the basic inspection of the car. The submitted data set forms the reference for the verification of the cars technical compliance with the regulations.

Any tolerance possibly accepted for the checking of the dimensions is explicitly mentioned in the corresponding component description, the corresponding specification sheet and/or in the corresponding article of these regulations.

Dimensions for which tolerances are explicitly permitted in the regulations are considered to comply if they are found to remain within the specified tolerance during the inspection of the vehicle.

Exception:

The dimensions of EB17-Parts can also be examined when they are not mounted to the vehicle. The decision if a EB17-part is examined while mounted to the vehicle or dismounted from the vehicle is at the sole discretion of the technical delegate.

Examples

Dimension	Tolerance accepted	Eligible dimension
1.000 mm	+2 mm	1.000 - 1.002 mm
1.000 mm	-2 mm	998 - 1.000 mm
1.000 mm	+/-2 mm	998 - 1.002 mm
min. 1.000 mm	No specification	1.000 -∞
max. 1.000 mm	No specification	0- 1.000 mm

Table 1

If not explicitly stated otherwise, the following is applicable:

There is no plus tolerance for maximum dimensions (max.).

There is no minus tolerance for minimum dimensions (min.).

The accepted tolerance for the mounting position of EB components is ± 3 mm, if not explicitly stated otherwise in the corresponding article or in the corresponding specification sheet.

Exceptions:

For the EB17 component rear wing (EB17-028) a tolerance of ± 6 mm is permitted for the mounting position.

For the EB17 component mirror (EB17-077) a tolerance of ± 6 mm is permitted for the mounting position.

For the EB17 component floor and rear diffuser (EB17-082 and EB17-078) a tolerance in z of $-3/+6\text{mm}$, in x and y of $\pm 3\text{mm}$ is permitted.

For the EB17 component front diffuser (EB17-075) a tolerance in z of $-3/+6\text{mm}$, in x and y of $\pm 3\text{mm}$ is permitted.

A tolerance may only be applied for the dedicated dimension.

Tolerances shall not be used to specifically alter or modify contours. It is therefore not permitted for example to alter the position of individual components above the design line as a whole and/or to level or even out the contour along of edges, beads or recesses. The assessment of this is at the discretion of the technical delegate.

The participants/competitors accept that the test platform used by the scrutineers for the technical scrutineering before and/or after the DTM Events forms a plane and horizontal surface in its entirety.

Y-dimensions which are indicated without prefix are respectively applied to both sides of the FL plane.

The specification of the measuring devices used by the DMSB for measuring the dimensions relevant for the regulations and the software used for the application are stored on the DMSB server and they are available to all registered participants. With the submission of the registration application for the DTM 2017, the competitor accepts the values established by the scrutineers in application of the measuring devices.

During the use of the DMSB measurement device a transmission of force in the contact region may occur. The prescribed measurements for the points concerned must also be met during this load application without exception.

2.8.1 Dimensional accuracy of the contour

If not otherwise explicitly regulated a tolerance of $\pm 6\text{mm}$ is applied to all points of the race car contour with regards to the data set filed for the homologation and which are not part of an EB component.

Exceptions:

- For points of the contour of the front and rear window a tolerance of $\pm 10\text{mm}$ is applied with regards to the data set of the scaled vehicle filed for the homologation.
- For the contour of the vehicle roof a tolerance in z of $-3/+6\text{mm}$ is applied.

Tolerance for standard gaps/separation lines located above the design line:
= $+2\text{mm}$

The tolerances for the mandatory engine dimensions are specified in Article 5.

2.8.2 Surfaces of components licked by the air

The surfaces licked by the air stream may not have any tangible, regular or irregular repeating form deviations which with objective consideration are deliberately introduced. Relevant are form deviations of technical surfaces according to DIN 4760.

Furthermore the coefficient of friction/air resistance of the surfaces must be identical in all directions.

2.9 Views

All the views are applied in parallel to the main axes. The following views are applied:

- Front view = from the front
- Rear view = from the rear
- Side view = from the side (from the left and/or the right side, the definition is at the discretion of the technical delegate)
- Plan view = from the top
- Bottom view = from the bottom.

Terms and conditions which have to be met by one or more of the views above, are only considered to be met if they are met without any deflection/deviation of the line of sight in the required view.

2.10 Standard components (EB17 components)

The following is applicable for all components defined as standard components (EB17 components) in these regulations:

EB17 components must comply in their entirety with all the dimensions, designs, materials and weights as well as any other design details and the production processes as submitted to the DMSB and stored on the DMSB server in form of CAD data, design drawings and/or descriptions as well as specification sheets (see Article 22.1). The usage of EB17-components marked with a "J" behind the number is not permitted.

As an alternative to CAD data, design drawings and descriptions, the DMSB may also use EB17 components submitted to the DMSB as a reference. If and which part must be submitted is determined by the DMSB.

The CAD data, design drawings and descriptions of EB17 components submitted to the DMSB will be made available for all registered competitors.

EB17 components must be obtained from the manufacturer defined for that specific component. A corresponding list is stored on the DMSB server and is available for registered competitors.

No modification/machining of any kind of a standard component is permitted, unless explicitly permitted in these regulations or approved by the technical delegate in writing.

This applies also for EB17 components which are fitted in areas for which there are no design prescriptions (free areas).

Exceptions

- a) It is permitted to label EB17 components individually by using an engraving machine. The labelling must not result in any change of the function or the property of the EB17 component.

Alternatively, the EB17 component may also be individually labelled by adding an adhesive film. This addition must not result in any change of the function or the property of the EB17 component. The adhesive film shall not be fitted in such a way as to mask/cover gaps.

- b) If an EB17 component is provided with logos or identifications of an ITR manufacturer applied through casting, it is permitted to remove these identifications also through machining, provided that the removal of material is limited to the absolutely necessary dimension/weight and the function of the EB17 component is in no way modified through this removal.

- c) It is permitted to attach one (1) passive RFID (radio frequency identification) transponder to each EB standard component. With the exception of parts of the standard suspension (EB17-052/053) the transponders may not be licked by the air stream. The maximum permitted storage capacity is 64 bits per transponder. Any access (read/write) to the storage of the transponder is prohibited whilst the vehicle is in motion.

The maximum permitted volume of a transponder is limited by a cylinder with radius of 4mm and a height of 5mm.

Standard components must be mounted and used in compliance with the appropriate installation instructions (x-y-z position in accordance with specification sheet and CAD data set) and operating principle.

Exception:

There are no installation instructions for the tyre warmers (EB17-059D). The restriction with regards to the use of tyre warmers (see Sporting Regulations 2017, Article S 25.1 and 30.16) is not affected by the exception.

Selected EB17 components may be provided with functional DMSB transponders by the manufacturer of the corresponding EB17 component according to DMSB specifications. It is the responsibility of the participants to ensure that at least one of these DMSB transponder per EB17 component remains undamaged and in working order at all times.

The following EB17 components are fitted with transponder/s:

Component	Number of transponders
Monocoque (EB17-001)	4
Front/rear crash structure (EB17-006)	2 each
Side crash structures (EB17-007)	2 each
Rear wing main profile (EB17-028.01.01)	1
Rear wing flap (EB17-028.01.01)	1
Wing support struts (EB17-028.02)	1 each
Front diffuser (EB17-075)	1
Rear diffuser (EB17-078)	2 (on per part)
Floor (EB17-082)	2 (on per part)

Table 67

Unless no other quantity is specified in the regulations, in all cases the minimum of one and the maximum of one EB17 component must be used for the corresponding function.

If several EB17 components are listed for one and the same function, it is at the discretion of the competitor to select which EB17 components he wishes to use for the corresponding function.

It is prohibited to use other components for functions which are subject to EB17 components or to support or supplement them by these other components. It is thus for example prohibited to take effect on the torsional stiffness of EB17 components through the mounting or the connection of components which are not explicitly permitted or to influence the freedom of movement of EB17 parts.

It is at the discretion of the DMSB technical delegate to decide whether or not these conditions are respected.

Pneumatic or hydraulic pressure which is required for the operation of a standard component and/or is created during the operation of a standard component must not be used under any circumstances for any other functions of the car.

Exception:

The pneumatic pressure of the paddle shift system may be used for the activation/deactivation of the DRS (adjustable flap).

Visible surfaces of EB17 components may be provided with foils (maximum thickness 1 mm – even if a multi-ply foil is applied) for design purposes only. The functionality or the properties of a standard component must not be altered through the application of foils. It is not allowed to bridge gaps through the use of foils.

Exception:

The maximum thickness of the foil applied to the rear wing (EB17-028) and the two endplates is 200 µm. At no point must the rear wing surfaces of the wing and the two endplates, which are licked by the air stream, be applied with multilayer foil. Alternatively, the rear wing and endplates may also be painted, provided that the applied paint is at no point thicker than 200 µm.

It is permitted to provide the standard components EB17-001, EB17-006, EB17-007, EB17-037 and EB17-038 with a heat protection or stone guard (maximum thickness 10 mm – applicable also in the case of a multilayer protection).

2.10.1 Individual attachment points on EB parts

If not explicitly permitted or if not an imperative condition for the functioning, the fitting of parts to standard components is prohibited. For the interpretation of these regulations, the term fitting includes positive connections with other components, in addition to screwing, bonding, welding and clamping.

Exceptions:

It is permitted to create an arbitrary number of individual mounting points in accordance with the following provisions for the following components provided that the provisions of article 2.10.2 are met:

- Monocoque (EB17-001)
- Front diffuser (EB17-075)
- Rear diffuser (EB17-078)
- Wing support struts (EB17-028.02)

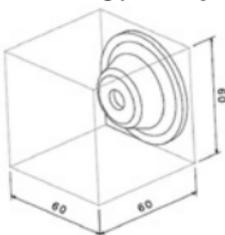
With the exception of points located inside the wheel arch free area or bonded directly to the monocoque no point of an individual mounting point may be licked by the air stream.

2.10.2

Only the following individual mounting points are permitted:

- a) Bonding pots (in accordance with drawing Z76)

The bonding pots must fit inside a cube with an edge length of 60 mm. Each bonding pot must not have more than 2 threaded holes (max. M6). Bonding pots may not be licked by the air stream.



Z76 – Individual mounting point (bonding pot)

b) L- and/or U-profiles

with a maximum side length of 60 mm.

The material thickness of the sides is maximum 2 mm.

The components must always be fixed to the non-bonded sides of the profiles.

The components must always be fixed to the profiles by using screw connections (max. M6) or by using cable ties/tie wraps.

c) Tie wrap bracket

In addition to the mounting points specified above under a) and b), it is permitted to bond individually designed brackets with any kind of bonding material to parts listed under 2.10.1, on condition that the contact/ bonding surface of the bracket is not more than 120 mm².

Only cable ties/ tie wraps made out of plastics (with metal guide) may be used to attach components to the tie wrap brackets.

The mounting points can be attached with any kind of bonding agent. The material of the mounting points is free, CFRP material is specifically allowed.

Any kind of individual bonding is permitted on the monocoque surfaces which are not visible in side, front and/or bottom or rear view respectively in delivery condition.

2.11 Repair of EB17 components

It is permitted to repair damaged EB17 components on condition that, after repair, they still comply with all the dimensions, designs, weights, materials, constructional details and production processes as specified in the submitted drawings and that no property of the EB17 component is changed as a consequence of the repair.

The following is applicable for the repair of EB17 components made out of composite materials:

It is compulsory to inform the technical delegate in writing about the exact extent and method of repair before it is carried out. It is at the discretion of the technical delegate to also approve repaired EB17 components made out of composite materials for further use during a DTM Event if they deviate marginally and locally from the submitted dimensions, weights, designs, materials and/or constructional details due to the repair or if the position of the centre of gravity has changed insignificantly. In this case, the corresponding component, along with a documentation on the work carried out and the facts deviating from the submitted drawing versions, will be made available to all registered competitors and to the stewards of the meeting in form of a technical information at the DTM Event following the repair. A protest against any thus approved and published deviation from the submitted drawing version is not admissible.

The repair of crash elements (EB17-006, EB17-007) and the associated adapters (EB17-037, EB17-038) will only be permitted if there are not safety concerns.

It is at the sole discretion of the technical delegate to decide whether there are safety concerns or not.

For the EB standard components front diffuser (EB17-052), rear diffuser (EB17-078) and floor (EB17-082) additional repair provisions are documented in the specification sheets of the respective components.

2.12 Specification components (SB17 components)

The following is applicable for all components defined as specification components (SB17 components) in these regulations:

SB17 components must comply in their entirety with all the dimensions, designs, materials and weights as well as any other constructional details and production processes specified in form of CAD data, design drawings and descriptions submitted to the DMSB and stored on the DMSB server (in folder: "mandatory regulation files").

This is also applicable if specification components SB17 components are fitted in areas for which there are no design prescriptions (free areas).

Unless no other quantity is specified in the regulations, in all cases the minimum of one and the maximum of one specification component must be used for the corresponding function.

If several specifications are listed for SB17 components, it is at the discretion of the competitor to select the specification for the production of the component. In no case may the component be manufactured in application of several specifications.

Exception:

It is permitted to apply specifications which are marked as „repair specification“ in combination with another specifications.

SB17 components must be fitted and used in accordance with the appropriate installation instructions (x-y-z positions) and operating mode stored and published on the DMSB server.

If need be dimensions, materials and design may be totally or partly free for defined areas/ surfaces of SB17 components.

The application of this freedom may in no case be used to take effect on the function intended for the SB17 component and/or to modify the mandatory designs, dimensions and weights of the SB17 component.

It is prohibited to use, to support or to supplement the operating mode of specification components through other components. It is at the discretion of the DMSB technical delegate to decide whether or not these conditions are respected.

2.13 Listed components (LB17 components)

These are components which were included in the DMSB technical list (see table 65) on the 1st March 2017 and the use of which is mandatory or optional for specified functions in accordance with these regulations. If several components are listed for the same function, the competitor is free to choose which of the listed components he wishes to use. A listed LB17 component must in all cases be used for the corresponding function. A LB17 component must in no way be modified. The reference parts or data sets submitted to the DMSB will be taken as reference.

Exceptions:

It is permitted to label LB17 components individually by using an engraving machine. The labelling must not result in a change of the function or the property of an LB17 component.

Alternatively, an LB17 component may also be individually labelled by adding an adhesive film. This addition must not result in a change of the function or the property of the LB17 component.

Any inclusion of a component on the DMSB technical list after the 31st December 2016 is subject to the approval of the DTM technical committee which shall also decide whether its use is compulsory or optional for the year 2017.

2.14 Prohibited measures

The implementation of any measure permitted by these regulations must not result in a prohibited measure.

3. AERODYNAMICS, CONTOUR AND DIMENSIONS

Amongst others the following parts/components listed in the table 49 below are EB17-parts/components relevant for this article:

Part-Name	Part-Number
Front-Diffuser	EB17-075
Heck Diffuser	EB17-078
Floor	EB17-082
Skid-Pad frame	EB17-035
Mirror	EB17-077
Front brake duct	EB17-091
Rear brake duct	EB17-092

Table 49

3.0 General bodywork (applicable for the complete bodywork, above and below the design line)

All surfaces of the race car which are licked by the air stream must be homologated. Only one homologation and one additional homologation only are permitted for each car make. During the term of validity of the homologation, homologated parts must not be modified in their shape and material or in their installation position, unless otherwise specifically specified.

In order to comply with the conditions set out in these regulations, the homologated series production car must be scaled in compliance with the conditions set out in Article 3.5.

The scaled vehicle serves as a reference for all the contour dimensions and/or shape above the design line defined and prescribed in these regulations for the race car.

Sunroofs, removable rear wings, rear wing supports, standard exterior mirrors and/or rear spoilers, if present, must be removed before the scaling and are thus not part of the scaled vehicle and/or the race car.

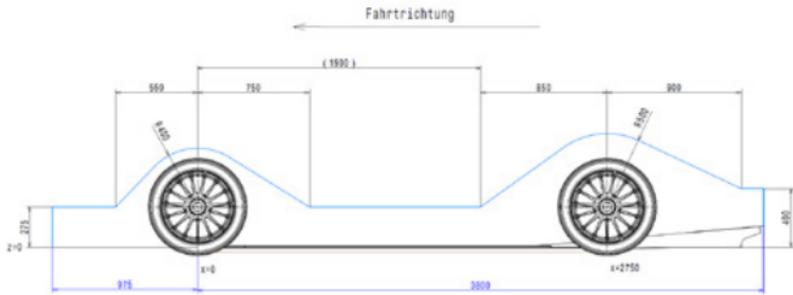
It is at the discretion of the DMSB to determine which vehicle parts fall under these terms and will be defined in the scope of the homologation of the series production car.

It is permitted to remove decorative strips and licence plate brackets before the scaling. Apertures possibly resulting as a consequence must be closed before the scaling, following the immediate contour.

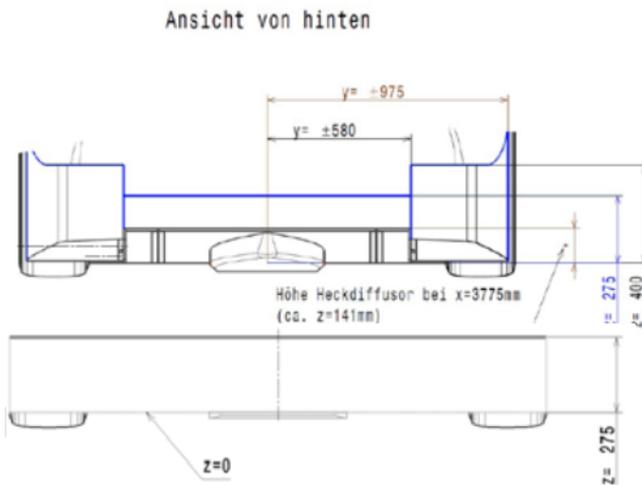
For the purpose of the interpretation of these regulations, the race car is divided in two parts:

1. above the design line
2. below the design line

The design line results from the characteristics of the blue line in the below drawings Z2, Z2a and Z2b.



Z2 – Design line characteristics – side view



Z2b – Design line characteristics – front view

3.1.1 Material specification

Composites (of individual and SB17 components) must comply with the following material specifications, unless explicitly specified otherwise:

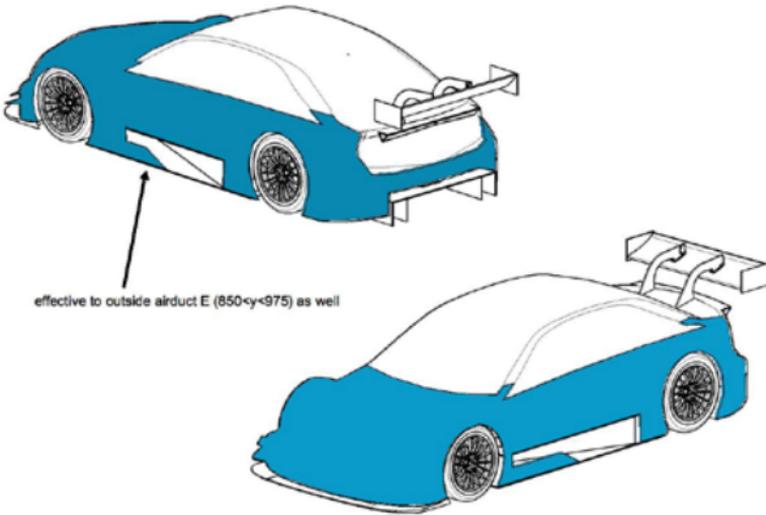
- a) Solely filaments (fibres) made out of carbon, glass and/or aramid are permitted
- b) The filament used may have a maximum tensile strength of 5.0 GPa.
- c) The weave characteristics of the filament must comply with a design corresponding to drawing Z5.
- d) The permitted maximum tensile modulus of the filament (single fibre) is 265 GPa.
- e) The wall thickness must be minimum 0.4 mm and maximum 3 mm.
- f) The plies of a CFRP component must be completely woven from rovings with at least 3,000 filaments (3K) per roving.

- g) There are no requirements with regard to the number of filaments for plies made solely out of aramid and/or glass.
- h) A core material between the plies is permitted.
- i) The material for the core is free. The core must be minimum 2 mm and maximum 10 mm thick and it must be completely enclosed by laminated fabric.
- j) The fabric used must be woven as specified in drawing Z5.

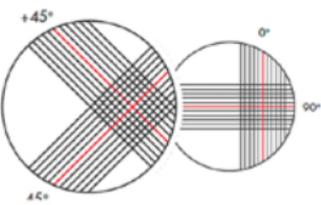
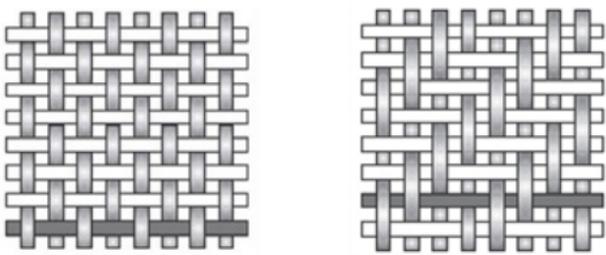
Exception to e):

- a) The wall thickness for the contour parts visible in the below drawing Z3 in any view, extending up to $z=850$ mm and marked blue, as well as for all components within the exterior air duct E in compliance with 3.21.2 is minimum 0.8 and maximum 3 mm.

This exception does not apply for the boot lid limited by the separation line of the scaled vehicle and for closed air ducts.



Z3 – Areas in which the wall thickness of composite materials must be min 0.8 mm and max 3 mm



Z5 – Admitted weave characteristics of the permitted filament

3.1.1a Permitted plies

In terms of this article, four different plies are permitted:

- a) Carbon fibre ply (consisting of identical rovings and resin)
- b) Aramid ply (consisting of aramid and resin)
- c) Core layer (consisting of core materials)
- d) Hybrid ply (consisting of different rovings and resin)
- e) Glass fibre ply (consisting of glass fibres and resin)

The conditions specified in article 3.1.1 and 3.1.1a are not mandatory for parts made out of composite materials which are homologated together with the engine.

3.1.2 Air ducts

Unless otherwise not explicitly permitted any airstream within the maximum contour and within the mirror box must comply with at least one of the following provisions:

A1) if not otherwise explicitly permitted the air streams must be defined and pass in full through a closed air duct up to its defined point of use (destination).

A2) if not otherwise explicitly permitted all surfaces licked by the air stream must be visible in plan view.

Exception to A1):

The cooler for the hydraulic oil of the steering system can be positioned inside any defined air duct. The position can be before its point of destination.

A closed air duct begins at the point where it connects to an air inlet opening (sole opening through which all air must pass into the joining duct). The interface between the air inlet opening and the closed air duct defines the beginning of the duct.

A closed air duct ends at its air outlet/outlets (An outlet/outlets through which solely air passes which has entered the upstream duct through an air inlet opening). Between an air outlet opening and the destination the air may not be specifically guided.

Unless otherwise explicitly permitted, solely one closed duct is permitted per defined air stream.

The air inlet opening of an air duct must be situated in x direction in front of the air outlet of the corresponding air duct.

3.1.2a It is not permitted to define a destination that guides air or an air stream specifically.

Exception to 3.1.2a:

The cores of permitted coolers may be defined as a destination.

3.1.2b

Closed air ducts must be connected directly to homologated air inlet openings in the contour.

Exception to 3.1.2b:

Air inlet openings of closed air ducts which are legally located inside another closed air duct do not have to connect directly to a homologated air inlet opening

3.1.3 Permitted air streams

Solely the below definitions for air streams and destinations are eligible.

Exception:

Air streams inside the flick box do not have to be defined.

a) Combustion air (air fed to the engine for combustion.)

The air restrictor/s is/are considered to be the destination for combustion air which must completely pass through at least one of the two air restrictors into the airbox. One or alternatively two closed air ducts may be used for combustion air. The air restrictors are not part of the closed duct.

b) Engine cooling air

The openings in the front bonnet (Art. 3.12.1) are considered to be the destination for the engine cooling air. Air stream which is defined as engine cooling air must first of all completely pass in a closed duct through the radiator core (SB17-007) and/or the net core of the engine oil cooler and subsequently pass completely through one of the two apertures in the front bonnet prescribed for this purpose (see Art. 3.12.1 and drawings Z18/Z18a) to be discharged from the contour. The maximum of two closed air ducts is permitted for engine cooling air.

All parts of an engine cooling air duct which are located in plan view below the mandatory outlet opening and are licked by the air must be visible in plan view. Protective screens according to 3.1.4c which may be present are part of the engine cooling air duct.

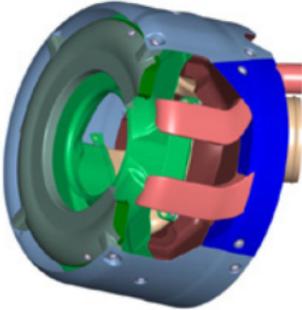
c) Cooling air for the brakes (front)

The completely mounted EB17-091 (front brake duct) at the front axle is the destination for the brake cooling air. The air stream which is defined as the brake cooling air must be directed entirely into the EB17-091. The cross section of the air intake opening may (per duct) not be less than 100 cm². One closed air duct for brake cooling air is mandatory for each front wheel. The duct for the "brake cooling air (front)" may be made out of two different homogenous materials.

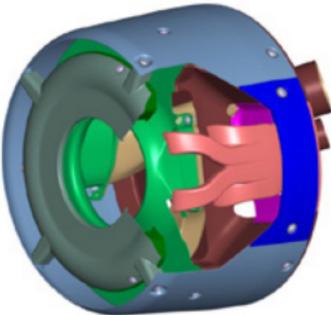
See also design specification article 11.6.

d) Cooling air for the brakes (rear)

The completely mounted EB17-092 (rear brake duct) at the rear axle is the destination for the brake cooling air. The air stream which is defined as the brake cooling air must be directed entirely into the EB17-092. The intake opening of each brake cooling air duct must be completely located below z=275. The cross section of the intake opening may (per duct) not be less than 100 cm². One closed air duct for brake cooling air is mandatory for each rear wheel. The duct for the “brake cooling air (rear)” may be made out of two different homogenous materials.



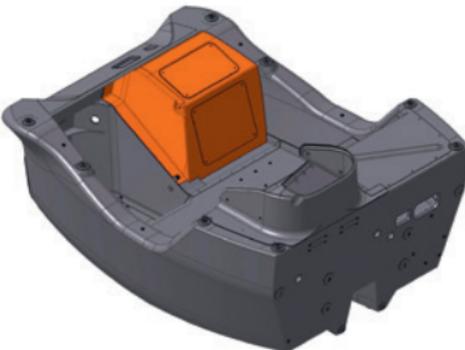
Z91 – EB17-091 Front brakes duct



Z91a – EB17-092 Rear brakes duct

e) Driver cooling air

The cockpit and/or the service box are the destination for the driver cooling air. Driver cooling air and/or the air used for the operation of a driver cooling device must completely pass into the cockpit and / or the service box and exit through the permitted openings in the rear window.



Z7 – Service box (brown), Part of EB17-001

A minimum of one closed air duct for driver cooling is mandatory.

A maximum of two closed air ducts for driver cooling are permitted.

- For each driver cooling duct the following applies:
- The air inlet opening must be located within the area defined in article 3.21.5c and/or within the standard cooling air intake (radiator grille)
- The air outlet openings must be located between $x=450\text{mm}$ and $x=1.500\text{mm}$
- Parts of driver cooling ducts located outside the volume define in article 13 are not considered to be part of the cockpit
- The entire air stream of the driver cooling ducts must be directed into the cockpit and/or the service box
- The number of outlet openings of the driver cooling ducts is not limited

The cross section of the driver cooling duct may at no point before $x=450\text{mm}$ be smaller than 10.000mm^2 .

The cross section of the driver cooling duct may at no point between $x=300\text{mm}$ and $x=450\text{mm}$ be larger than 30.000mm^2 .

If two driver cooling ducts are homologated, the requirements above regarding the cross section are valid for the sum of the cross sections of both ducts.

If a helmet and/or seat ventilation is used it is permitted to direct the required air stream inside a closed air duct from the air outlet opening of a driver cooling duct to the helmet of the driver and/or the seat.

Air for the helmet ventilation must be directed in full into the helmet shell.

The air stream of the exhaust air from the helmet and/or seat ventilation may only be influenced by the first volume surrounding the driver.

The venting (air exit) of the cockpit must be performed through the openings in the rear window.

The design and execution of the driver/cockpit cooling/ventilation system and the demisting system must lead to no other function or effect other than to ventilate the cockpit and/or to prevent the windows from misting up.

f) Exhaust manifold cooling air

The exhaust manifold is the destination. The air stream which is defined as exhaust manifold cooling air must pass through a closed air duct whose air inlet openings must be completely located within following areas.

	x	x	y	y
Inlet	-925	0	0	650
Outlet	≥ -30		max. 400	

Table 2

At any arbitrary position that is located at least 100mm behind the inlet opening and in front of $x=-30$ mm the duct must have an undivided, circular cross section maintained over a length of 50mm with a maximum diameter of 70mm through which all air entering the duct through the air inlet opening must pass.

Air stream which is defined as exhaust manifold cooling air must be completely discharged into the air duct defined in 3.1.3 k).

One exhaust manifold cooling duct is permitted on each side of the vehicle.

g) Gearbox oil cooling air

The radiator core of the gearbox oil cooler is considered to be the destination. The entire air stream defined as gearbox oil cooling air must completely pass through the radiator core of the mandatory oil cooler (LB17-014, LB17-014.1, LB17-14.2). Behind the destination the air must be directed diffusely up to a permitted opening in the area of the rear skirt (see 3.21.6). It is solely at the discretion of the technical delegate to assess if the air is directed diffusely according to these regulations.

h) Shift compressor cooling air

The air compressor of the shift system (LB17-015.1, LB17-015.2, LB17-015.3, LB17-015.4) is considered to be the destination. The air duct must have only one air outlet. This outlet must not be located further than 50 mm away from the radiator of the compressor. At a point which is located at least 100 mm behind the intake opening but in front of the destination the air duct must have an undivided, circular cross section maintained over a distance of at least 50 mm of with a maximum diameter of 30 mm through which all air entering the duct through the air inlet opening must pass.

After the destination the shift compressor cooling air must be discharged diffusely. The air duct may pass through the AR2 plane.

The air intake opening may be located inside any other arbitrary homologated air duct.

i) Clutch cooling air

The inside of the clutch housing (EB17-004/EB17-004V1) is considered to be the destination for the clutch cooling air. The air stream which is defined as clutch cooling air must completely pass through the aperture provided for that purpose into the clutch housing. At a point which is located at least 100 mm behind the intake opening the air duct must have an undivided, circular cross section maintained over a

distance of at least 50 mm (restrictor) with a maximum diameter of 50mm through which all air entering the duct through the air inlet opening must pass.

The clutch cooling air must thereafter be discharged diffusely.

The air intake opening of the clutch cooling air duct may be located within the rear brake cooling air duct (d).

j) Exhaust

The exhaust system is considered a closed air beginning at the cylinder head. The outlet openings must be completely located in an area which is limited by:

x	z
1700	150
1950	400

Table 3

k) Cooling of the exhaust system

Parts of the exhaust system located above $z=275$ are considered to be the destination for the exhaust system cooling air. The intake opening of the duct must be located in front of $x = 1000$ mm. The outlet opening of the exhaust system cooling duct must be located in an area which is limited by:

x^*	z^*
1700	150
1950	400

Table 4

*In the case that the outlet opening or parts thereof are located above $z=275$, see also Article 3.9 Exception 15.

One exhaust system cooling duct is permitted on each side of the vehicle.

The inlet opening of the exhaust system cooling may be located inside the lateral air duct (in accordance with 3.1.3 p and 3.21.2).

l) Alternator cooling

The immediate surroundings of the alternator (EB17-014) are considered to be the destination for the alternator cooling air. At a point which is located at least 100 mm behind the intake opening the air duct must have an undivided, circular cross section maintained over a distance of at least 50 mm (restrictor) with a maximum diameter of 50mm through which all air entering the duct through the air inlet opening must pass. The alternator cooling air must be discharged diffusely.

The air inlet opening of the alternator cooling air duct may be located within the cooling air duct for the rear brakes (d).

m) Optional cooling/optional air ducts

For each vehicle two individual air ducts (optional air duct) may be used for which two individual destinations can be defined (one per duct) for the corresponding air stream which must be located in front of the AR2 plane. The destinations of an optional air duct may not be defined as destinations for other air ducts and must be located at least 100mm from parts which are licked by the air stream.

An air duct which leads to an individual destination must at a point which is located at least 100 mm behind the intake opening of the duct must have an undivided, circular cross section maintained over a distance of at least 50mm with a maximum diameter of 50mm through which all air entering the duct through the air inlet opening must pass. After the destination, the optional cooling air must be discharged diffusely.

The air outlet openings of an optional cooling duct must be located behind $x=-200$. If two optional cooling ducts are used, all air outlet openings of one of the two ducts must be located behind $x=0$. No part of an optional air duct may be located behind the AR2 plane. The air inlet opening of an optional air duct must be located within another air duct.

n) Wheel arch ventilation duct - rear

The contour is considered to be the destination for the rear wheel arch ventilation. One wheel arch ventilation duct is permitted on each side of the vehicle. For design regulations of the wheel arch ventilation duct see article 3.22.12.

o) Cardan cooling duct

The transmission tunnel in front of $x=1,500$ is the destination for the cardan cooling duct which at a point located at least 100 mm behind the intake opening of the duct must have an undivided, circular cross section maintained over a distance of at least 50mm with a maximum diameter of 50mm through which all air entering the duct through the air inlet opening must pass.

Behind $x=1,500$, the cardan cooling air must be discharged diffusely. For the interpretation of this regulation, the transmission tunnel and the area behind the mono-coque are not considered to be a closed duct.

The air intake opening of the cardan cooling duct may be located within any other defined air duct.

p) Bargeboard box air duct

According article 3.21.2

The bargeboard box outside of the area G is the destination for the bargeboard box air duct.

3.1.3.1 Common air intake ports

It is permitted to use a common air intake opening for the air ducts defined in 3.1.3 g), i) and l).

3.1.4 Penetration of air ducts / components within air ducts

If not explicitly allowed otherwise no components may be located within closed air ducts.

Exception:

1.) Any duct may be penetrated by cylindrical components and/or cables. Provided that within the duct:

- the diameter of the component is no greater than 15mm at any point
- the cylinder central axis runs straight
- possible used tubes have no openings
- the distance between two components is at no point <50mm

If walls of a closed air duct are penetrated by components, the gap between the component and the air duct wall must not be more than 15 mm.

2.) Only the lateral air duct (3.21.2) and the cooling duct for the exhaust (3.1.3k) may be penetrated by EB17-Suspension parts. The size of the required openings may be designed in a way as to ensure clearance for the suspension parts for any permitted kinematic constellation.

No opening in an air duct may result in the flow of air outside of a closed air duct through the plane AR1 and/or AR2.

A closed air duct may be made out of several parts, provided that the interfaces are sealed. The sealing agent is free.

Under no circumstances may the air which is or was guided through a closed duct be accelerated by moving parts.

3.1.4a Air inlet opening of closed air ducts

No air inlet openings may be located behind the AR2 plane.

No air inlet openings may be located within wheel arch clear areas

Exceptions for both:

The air inlet opening for the rear wheel arch ventilation duct

3.1.4b Temporary sealing of air inlet openings (blanking)

At all times during an event, it is permitted to temporarily close (blank) air inlet openings completely or partially provided that no parc fermé regulations are violated and the following requirements are met:

- 1.) Blanking is only permitted on a virtual surface (blanking surface) which is to be homologated. The virtual homologated surfaces for blanking and for the installation of protective screens may be identical.
- 2.) For each air inlet opening only one virtual blanking surface is permitted which must close the air inlet opening entirely and may at no point have a radius <500mm.

Exception to 2.):

The contour of the surface visible in front view may have radii <500mm

- 3.) The material used for blanking may at no point be located further than 3mm away from the virtual blanking surface.

Exception to 3.):

For the transition area between the virtual blanking surface and the homologated contour of the air inlet opening the following is valid: parts of the blanking material may be further away than 3mm from the blanking surface provided that no part of the relevant area is located further than 3mm away from the contour of the air inlet opening.

- 4.) The material used for blanking must be homogenous and impermeable to air.
- 5.) The following applies for the fixing material of the blanking: the surface licked by the air stream of parts of the fixing material may not be greater than 5cm² for each air inlet opening.
- 6.) Blanking may solely have the purpose of regulating the air quantity flowing into the air ducts. It is at the discretion of the technical delegate to decide whether this point is respected or not.

3.1.4c Protective screens on/in air inlet openings

The installation of protective screens in front or within air inlet openings is permitted if the following specifications are met:

- 1.) The installed protective screen must have (viewed in air flow direction) an open screening surface of at least 50%.
- 2.) The installation of protective screens is only permitted on a virtual surface (protective screening surface) which is to be homologated. The virtual homologated surfaces for blanking and for the installation of protective screens may be identical.
- 3.) For each air inlet opening only one virtual screening surface is permitted which must close the air inlet opening entirely and may at no point have a radius <500mm.

Exception to 3.):

The contour of the surface visible in front view may have radii <500mm

- 4.) The material used for screening may at no point be located further than 3mm away from the virtual screening surface.

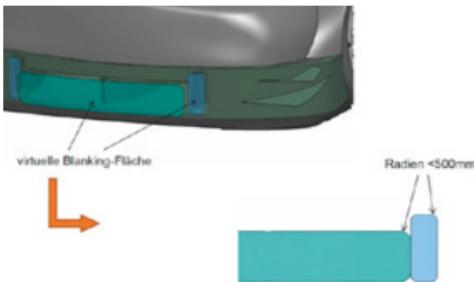
Exception to 4.):

For the transition area between the screening surface and the homologated contour of the air inlet opening the following is valid: parts of the screening material may be further away than 3mm from the screening surface provided that no part of the relevant area is located further than 3mm away from the contour of the air inlet opening. No open screening surface is defined in this area.

- 5.) The following applies for the fixing material of the screening: the surface licked by the air stream of parts of the fixing material may not be greater than 5cm² for each air inlet opening.

3.1.4d Protective screens inside closed air ducts

The maximum of one protective screen is permitted for each closed air duct before its destination. The protective screen must have (viewed in the direction of flow) an open screening surface of at least 50%. There are no additional design specifications for protective screens which are located inside closed air ducts.



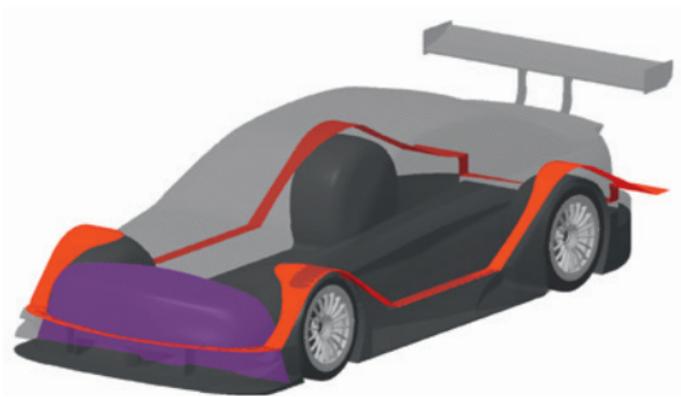
Z-88 Example for permitted areas and contours of radii <500mm on virtual blanking and/or screening surfaces

3.1.5 AR 1 plane

The vehicle must be designed so that no air stream which is not defined and/or which is not located within a closed duct penetrates through the AR 1 plane which runs in parallel to plane VA at x = -460 mm at no point within the below defined boundaries.

The AR 1 plane is limited as follows:

- Above z=275 , through the x-section of the scaled car.
- Below z=275, through the area of the front diffuser (EB17-075) visible in bottom view and y = 960mm.



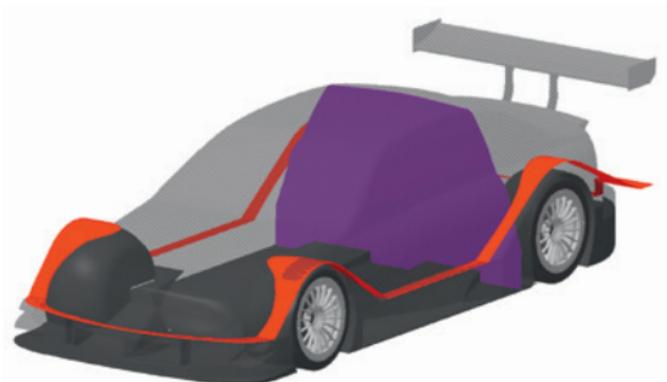
Z8 – Position and extent of AR plane 1 (pink) at $x = -460$ mm

3.1.6 AR 2 plane

The vehicle must be designed so that at no point within the below defined boundaries, the air stream penetrates through the AR 2 plane which runs in parallel to plane VA at $x = 2.300$ mm.

The AR 2 plane is limited as follows:

- Above $z=275$, through the x-section (at $x=2.300$ mm) of the scaled car.
- Below $z=275$, through the area of the underbody visible in bottom view and $y=955$ mm.



Z9 – Position and extent of AR plane 2 (pink) at $x = 2,300$ mm

Exceptions

The closed ducts of the below (1. to 5.) defined air streams and diffuse air according to 6. and 7. may be passed through the AR 2 plane:

1. Cooling air for the rear brakes
2. Gearbox oil cooling air
3. Clutch cooling air
4. Alternator cooling air
5. Shift compressor cooling air
6. Diffuse driver cooling air (if this occurs outside of an air duct and within the cockpit and the air exits completely through openings in the rear window)

- 7. Diffuse cardan cooling air
- 8. Parts of the DRS pneumatics

3.1.7 Contour design

The contour must be designed so that in plan view no mechanical component is visible (windows are considered to be opaque for this purpose).

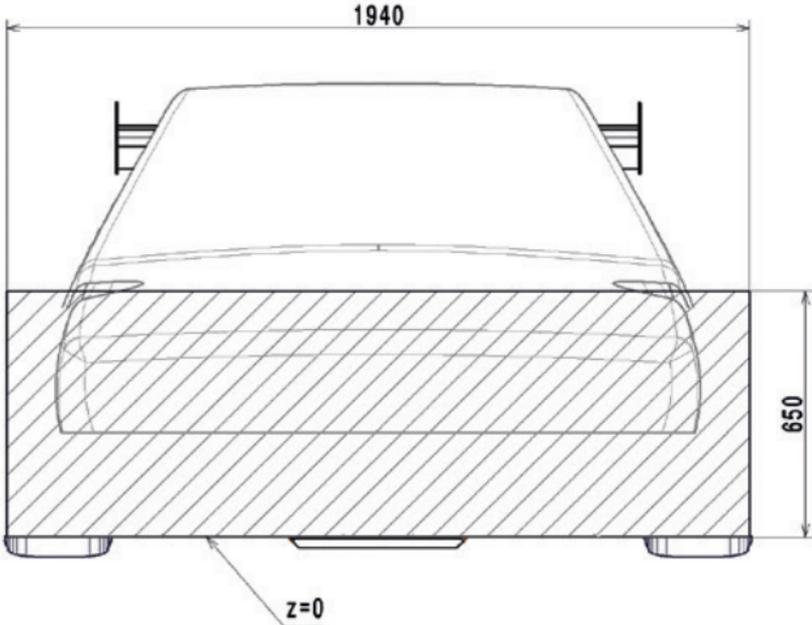
Exception

The following parts may be visible in plan view:

- Parts of the wheel which are located below $z=275$
- Parts of the wheel if they are only visible through the openings of the louvres and/or through the max. 5mm wide gap between two louvres.
- The window wiper arm and the window wiper drive
- Master switch
- Fire extinguisher triggering system
- Bonnet fasteners
- The permitted protrusion of the exhaust tailpipe

No component licked by the air stream may be transparent or translucent, with the exception of the homologated window surfaces, the light and the contour in front of official camera lenses.

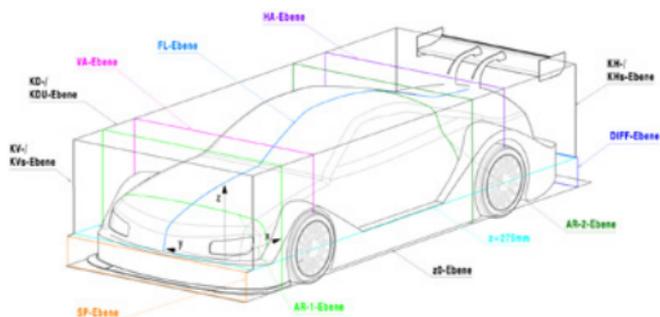
In front view of the race car and above $z=0$, a closed and rectangular area, positioned parallel to plane VA, of at least 1,940 x 650 mm must be covered.



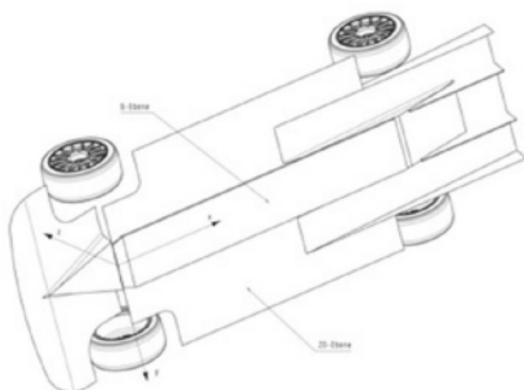
Z10 – Position of the mandatory closed area

3.2 Reference planes/coordinate system

The below planes and reference points are defined in the coordinate system:



Z11 – Position of the reference planes



Z11a – Position of the reference planes

The axes in the coordinate system run as follows:

Y+	in driving direction, to the right from the vehicle longitudinal centre axis
Y-	in driving direction, to the left from the vehicle longitudinal centre axis
X-	to the front starting from x0
X+	to the rear starting from x0

Y dimensions indicated without prefix are applied to both sides respectively of plane $Y=0$.

X dimensions indicated without prefix are applied behind (in driving direction) plane $X=0/VA$.

Z dimensions indicated without prefix are located above $z=0$.

The following seven points (table 5), of which at least three are used as a reference during technical checks, are defined and marked on the monocoque (EB17-001) and represent binding reference points for $x=0$, $y=0$, $z=0$ and all other dimensions on the race car. It is at the discretion of the technical delegate to decide which three points are taken as reference.

It is the responsibility of the competitors to deposit a measurement protocol at the

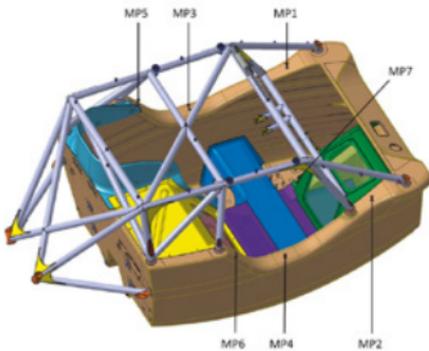
DMSB. The coordinates of the measurement points defined in this measurement protocol are thereafter binding for the corresponding monocoque. The measurement protocol must:

- 1.) be deposited before the first of April at the DMSB
- 2.) be assigned unequivocally to a specific monocoque
- 3.) be issued and signed by the monocoque manufacturer

Monocoque reference points (MP)

	x	y	z
MP1	828	-545	594
MP2	828	+545	594
MP3	1.385	-615	453
MP4	1.385	+615	453
MP5	1.682	-630	620
MP6	1.682	+630	620
MP7	1.015	-30	255

Table 5

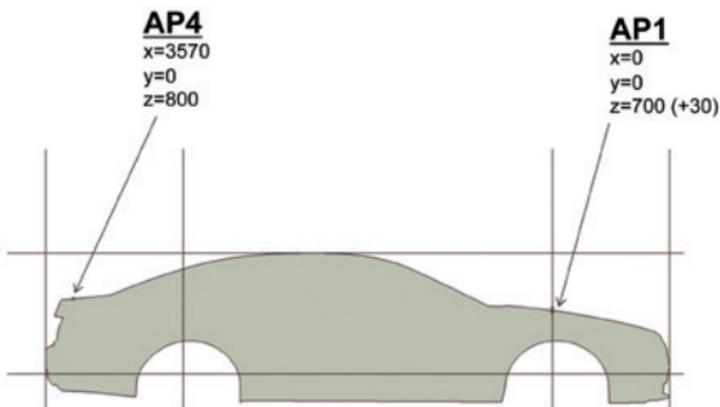


Z12 – Position of the monocoque reference points

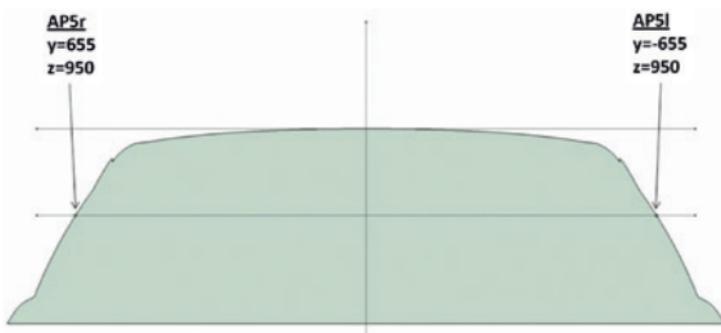
Aerodynamics reference points (AP)

	x	y	z
AP1	0	0	720 ±3mm
AP4	3.570	0	800
AP5r		+655	950
AP5l		-655	950
AP6	-650	0	560 ±15mm

Table 6



Z13 – Position aero reference points 1 and 4



13a – Position aero reference point 5r and 5l

The following reference planes are binding:

3.2a Plane z0

Runs at $z=0$ perpendicular to planes VA and FL.

3.2b Plane S (z=- 35) Step

Runs on the race car at $z=-35$ mm in all points in parallel to plane z0.

3.2c Plane SP (Splitter front edge)

Runs on the race car between $z=0$ and $z=275$, at $x=-975$, in parallel to plane VA.

3.2d Plane KV (Front bodywork)

Runs on the series production car, in parallel to plane VA through the foremost point of the bodywork in side view 875 mm below the plane KDU.

3.2d-1 Plane KVs (Front bodywork, scaled)

Runs on the race car above $z=275$ at $x=-875$ in parallel to plane VA and is, in side view, in contact with the foremost point of the vehicle.

3.2e Plane VA (Front axle)

Runs on the race car at $x=0$ perpendicular to plane FL and vertically to plane z0 through the centre axis of the front wheels.

3.2f Plane HA (Rear axle)

Runs on the race car at $x=2,750$ mm perpendicular to plane FL and vertically to plane z0.

3.2g Plane KH (Rear bodywork)

Runs on the series production car, in parallel to plane VA, through the rearmost point of the bodywork in side view 875 mm below plane KDU.

3.2h Plane KHs (Rear bodywork, scaled)

Runs on the race car above $z=275$ mm at $x=3,775$ mm in parallel to plane VA and is, in side view, in contact with the rearmost point of the car (rear wings and rear wing supports, if existing, are ignored for the position of plane KHs).

3.2i Plane KDU (Bodywork top roof panel, unscaled)

Runs on the series production car through the uppermost point of the bodywork in side view.

3.2j Plane KD (Bodywork top roof panel)

Runs on the race car in parallel to plane z0 at $z = 1,150$ mm through the highest point of the bodywork.

For vehicles for which the highest point of the bodywork is not located on the FL-plane the position of the plane KD will be defined by the DMSB.

3.2k Plane FL (Car longitudinal axis)

Runs at $y=0$ in X-direction through the centre section of the series production car and the race car (car longitudinal axis) and is vertically to plane z0.

3.2l Plane DIFF (Diffuser plane)

Runs on the race car at $X = 3,800$ in parallel to plane VA and is in contact with the rearmost point of the rear diffuser.

3.2m Plane 1 AR (Aero reference plane)

Runs on the race car above the area of the front diffuser visible in bottom view, at $x = -460$ in parallel to plane VA (see also 3.1.5)

3.2n Plane 2 AR (Aero reference plane)

Runs on the race car above the area of the underbody visible in bottom view, at $x = 2,300$ mm in parallel to plane VA (see also 3.1.6).

3.3 Wheelbase

The mandatory wheelbase of the car is $2,750$ mm ± 10 mm. The wheelbase may be checked at any time during an event on the vehicle standing on its wheels. The technical delegate alone decides when this check is to be carried out.

3.4 Vehicle width/track width

The maximum permitted width of the race car contour (without rear mirrors) is 1,950 mm. Tolerance: +6mm.

Above $z=275$, no part of the wheels may be outside $y=975$.

When checking the widths, those parts of the wheels below $z=275$ will not be considered.

The width may be checked at any time during an event on the vehicle standing on its wheels. The technical delegate alone decides when this check is to be carried out.

3.5 Contour dimensions, scaling and adjustment

In order to represent the various external dimensions required by these regulations on the race car, it may be necessary to scale the surfaces of the series production car in x , y and/or z .

All the areas of the bodywork must be scaled accordingly with a constant factor. It is not required that the factor for an X-scaling is identical to the factor for a Z-scaling.

In order to represent the required dimensions through the scaling of the areas in accordance with the procedure specified below, it may become necessary to proceed with the scaling in several steps. In this case, the factor for each scaling must be recorded.

The software „Catia, Version V5“ is used for the control of the scaling.

The scaling factors as well as all the data required for a re-enactment of the scaling must be recorded on the homologation form of the race car. At least the $y=0$ -section of the series production car as well as the scaling factors applied must be documented in the homologation papers.

Should the side projection of the bodywork deviate from the $y0$ section, the DMSB is to be informed before the scaling. If necessary the DMSB can make binding scaling specifications which deviate from the following steps for the concerning vehicle.

After the scaling/adjustment, the contour must comply with the following conditions:

- 1) It must be intersecting point AP1.
- 2) It must be intersecting point AP4.
- 3) It must be intersecting point AP6.
- 4) Plane KVs must run at $x=-875$.
- 5) Plane KHs must run at $x=3,775$ mm. This results in a distance of 4,650 mm -between KVs and KHs.
- 6) Plane KD must run at $z=1,150$ mm.
- 7) It must, based on the frontal projection of the race car, intersect the points AP5 r and AP5 l or have a value at $z=950$ of $Y=> 1310$

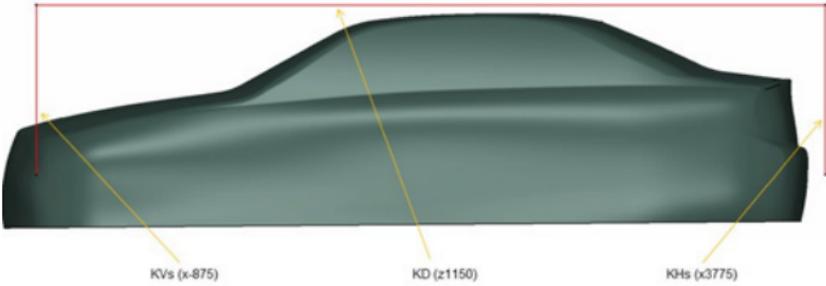
Scaling for lights, door handles as well as manufacturer logos and type identifications is not a requirement; those parts may also be used on the race car without scaling.

3.5.1 Scaling procedure

The following documented sequence of the scaling process must be complied with.

Starting position:

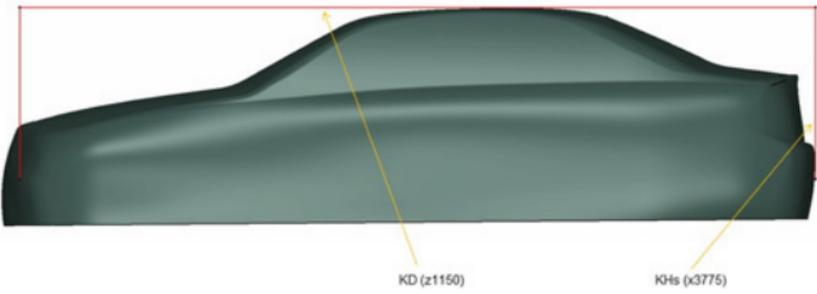
The $y=0$ section of the homologated series production vehicle in side view:



Z14 – Side view $y=0$ section

Step 1

The bodywork of the series production car must be adjusted in such a way that the plane KD intersects the highest point at $z=1150\text{mm}$ and that the plane KH intersects the rearmost point of the bodywork at $x=3775, z=\geq 275$.



Z14a – Alignment of the $y=0$ section at the plane KD and plane KH

Step 2

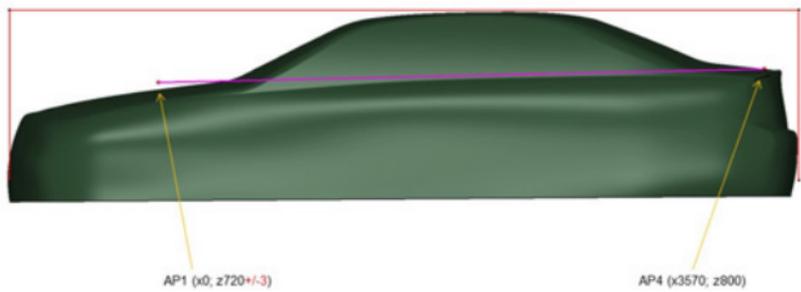
If necessary scale bodywork so that the foremost point of the $y=0$ section intersects the plane KV at $x=-875, z=\geq 275$ and AP4 at $x=3570\text{mm}, z=800\text{mm}$



Z14b – Alignment of the $y=0$ section at the plane KD and plane KH

Step 3

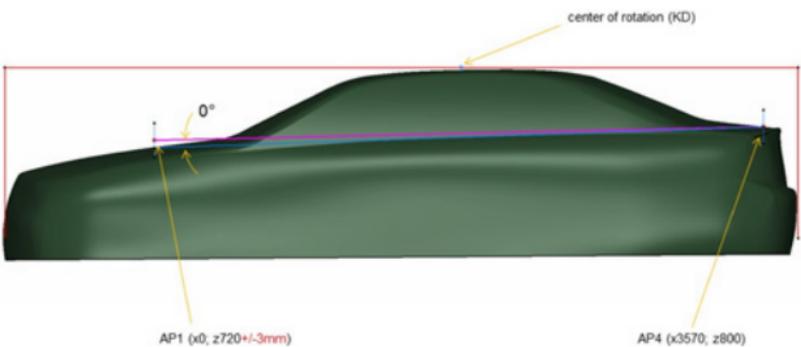
Set tangent from AP1 ($x = 0\text{mm}$, $z = 720 \pm 3\text{mm}$) to AP 4 ($x = 3570\text{ mm}$, $z = 800\text{mm}$).



Z14c – Set tangent at AP1/AP4

Step 4

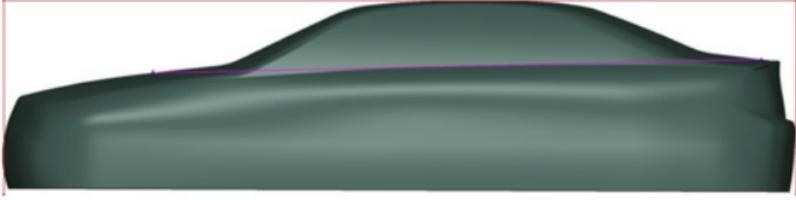
If necessary rotate bodywork/ $y=0$ section around the highest point of the bodywork until the $y=0$ section intersects points AP1 and AP4.



Z14d – Set tangent at AP1/AP4

Step 5

If necessary repeat step 1 to 4 until the required intersection points are achieved.



Z14e – Repeated scaling

Step 6

The bodywork must be scaled in such a way that the points AP5r ($y=655\text{mm}$, $z=950\text{mm}$) and AP5l ($y=-655\text{mm}$, $z=950\text{mm}$) are intersected by the projections derived from the front and back view. Step 6 is only mandatory if the width of the bodywork at $z=950$ is $<1310\text{mm}$.



Z14f – Scaled bodywork to the required Y-value

Step 7

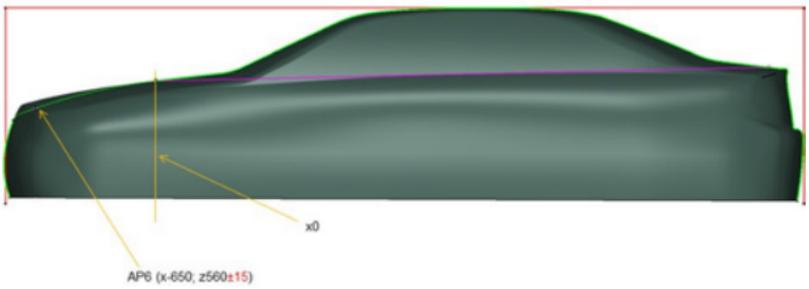
Should the $y=0$ section not intersect the point AP6 ($x= -650\text{mm}$, $z= 560\pm 15\text{mm}$) after step 6 within the tolerances the bodywork must be locally modified in front of $x=0$ accordingly. Whereby:

If the $y=0$ section runs initially above AP6 at $z=>575\text{mm}$ the $y=0$ section must intersect AP6 between $z=572$ and $z=575$ after the modification.

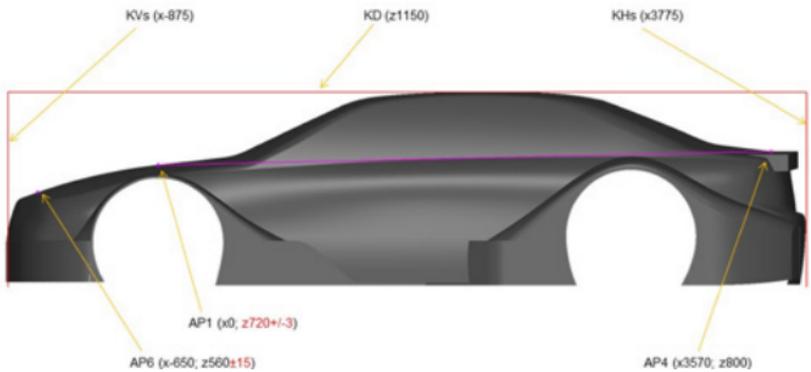
If the $y=0$ section runs initially below AP6 at $z=<575\text{mm}$ the $y=0$ section must intersect AP6 between $z=545$ and $z=548$ after the modification.

In any case all local modifications must respect the appearance and aesthetic of the original contour. The assessment if this requirement is met is at the discretion of the technical delegate.

If the $y=0$ section after step 6 intersects "AP6" within the tolerances ($x= -650\text{mm}$, $z= 560\pm 15\text{mm}$) the bodywork may not be modified in front of $x=0$.



Z14g – Contour before step 7 (example)



Z14h – Y=0 section from drawing Z14d after modifying contour in front of x=0 (example)

Step 8

The final scaled contour must be homologated.

The complete 3D CAD data of the unmodified series production car as well as the 3D CAD data of the scaled vehicle must be submitted to the DMSB together with the homologation application form. It must be possible to identify amongst others the possibly modified design attitude from the data.

The data submitted shall serve as reference for checking the mandatory contour characteristics and the contour inclination angle.

Vehicles which, even after the completion of steps 1 to 7, do still not comply with all the requirements as stipulated in these regulations may possibly be homologated on the basis of a special admission. The DTM commission alone is entitled to approve a request for a special admission. It is the responsibility of the applicant to submit the DTM commission all the requested data and information about the vehicle in question. The approval of a special admission may be subject to respecting technical conditions, which may differ from the provisions and freedom, granted in these regulations.

3.6 Attachment of components

- a) Any part of the car, which is licked by the air stream, must at all times during the event and whilst the car is in motion be rigidly secured to the monocoque of the

car without any freedom of movement.

All of these parts must may not have any freedom of movement in themselves and/or in relation to the monocoque, with the exception of EB suspension components and of the propulsion.

Under no circumstances may a part of the contour change its position or shape whilst the car is in motion.

Exception to a):

- 1) Closed air ducts (or parts thereof) for the cooling of the front brakes which are made out of tubing material may move in accordance with the kinematics of the front wheels.
- 2) Closed air ducts (or parts thereof) for the cooling of the rear brakes which are made out of tubing material may move in accordance with the kinematics of the rear wheels.
- 3) The flap of the rear wing can rotate about its axis of rotation (defined in drawing 29) as defined in the sporting regulations 2017 through the activation/deactivation of the DRS function.
- 4) The brake ducts (EB17-091 and EB17-092) must move together with the wheel uprights without any relative motion.

b) Doors, windows, front bonnet and boot lid must be completely closed according to their position on the series production car and be located at their standard positions when the car is in motion.

The front bonnet and the boot lid must be fitted with at least two safety fasteners each, clearly identified by means of a colour in clear contrast to the rest of the vehicle.

It must be possible to open the front bonnet and the boot lid without using tools or other aids.

Original fuel filler flaps may be removed. The resulting apertures in the contour must be closed in a way that the contour thereafter runs mirror-symmetrical to the comparable surface on the opposite side of the vehicle.

The bridging of gaps through adhesive film, decorative film and/or lacquer foil is prohibited for all areas of the vehicle above the design line which are can be licked by the air stream.

Exception with regards to gap bridging:

see Article 3.10

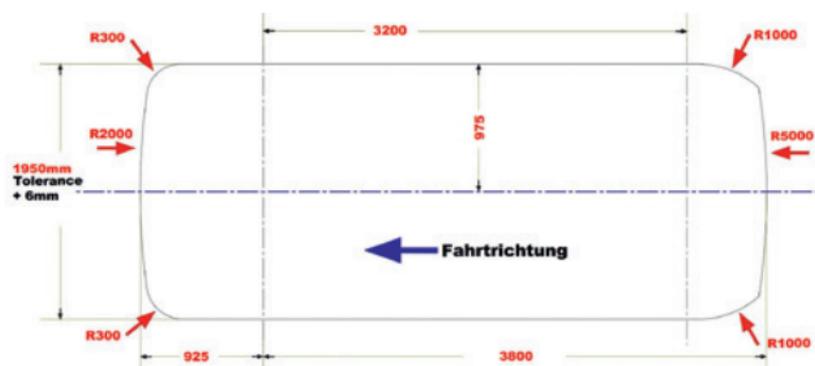
3.7 Maximum contour

In plan view, no part of the race car must protrude beyond the maximum contour as represented in the drawing (Z15) below.

Exceptions

- The rear wing (EB17-028) and parts of the rear wing support struts and the rear wing end plates

- Parts of the front diffuser (EB17-075)
- The eligible contours within the flick box (see 3.21.7)
- Rear diffuser (EB17-078)
- Wheels below $z=275$.



Z15 – Maximum contour of the vehicle in plan view (without exterior mirrors)

3.8 Bodywork design above the design line

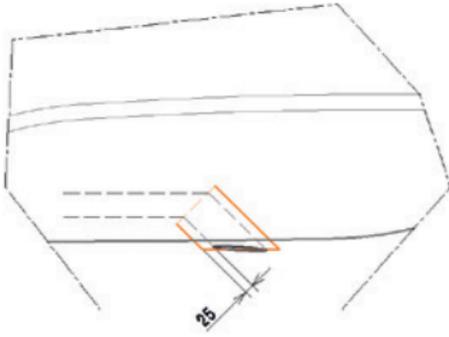
All areas of the race car which may be licked by the air stream when doors and windows are closed and which are situated above the design line must have identical contour characteristics in accordance with the 3D CAD data set submitted for the scaled vehicle.

The 3D CAD data set of scaled contours may differ from the also submitted data set of the unscaled contour only with regard to factors which result exclusively from the permitted scaling, shifting and/or rotating.

Exceptions (permitted deviations from the scaled contour):

- A1 Licence plate brackets or supports for registration plates which are located within $y=325$ mm as well as between the design line and $z=425$ mm may be removed. Holes which possibly result must be closed, adapted to the ambient contour, and be arranged in an appealing way.
- A2 At any position behind $x=0$ mm, a local modification of the contour is permitted at one point, provided that this modification is limited to a maximum diameter of 120 mm and has the sole purpose of attaching the connecting valve for the external air feed of the pneumatic jacks. This modification is permitted symmetrically identical on both sides of the vehicle (with regard to the $Y=0$ plane) and can be optionally used solely for the attachment of the connecting valve. The respective position which is not in use must be closed in such a way with a cover so that the scaled contour is restored.
- A3 There must be 2 holes with a diameter of 34 mm (± 1 mm) in the roof panel to give access to the jacking points (see Article 14.6).

- A4 The front bonnet must be modified in accordance with Article 3.12.1 (cooler exhaust air openings).
- A5 The design of the area between the front bonnets rear edges and the wind-screen (water box) is free, provided that no mechanical component is visible neither in front nor in plan view, with the exception of the windscreen wiper (including its drive), the fire extinguisher triggering, the bonnet safety fasteners and the main switch. No part of the water box must be visible in front view.
- A6 For areas/surfaces of the race car contour which are in contact with the mandatory spoiler lip and the defined transition area, the contour of the rear spoiler in accordance with the 3D CAD data set (see 3.15.1) is compulsory.
- A7 Eight local modifications (4 in front of $x=1100$, 4 behind $x=2200$) in the contour are permitted for the fitting of a maximum of 4 fasteners in front of $x= 1100$ and a maximum of 4 fasteners behind $x=2200$, provided that each single modification is limited to an area that can be covered by a rectangle of 60 x 160 mm. The minimum distance between two modifications of the contour is 200 mm. The modifications shall at no point be outside the scaled contour.
- A8 both exterior mirrors
- A9 Additional permitted separation lines
- A10 The two apertures for the passage of the rear wing support struts
- A11 The permitted modifications for the mounting of the quick filler valves
- A12 The separation line of the mandatory roof hatch
- A13 The permitted apertures in the rear window
- A14 Local modifications of the scaled contour in the vicinity of the design line are permitted, but only after approval of the DMSB and after agreement of all manufacturers organised within the ITR. The DMSB will in all cases only approve modifications which unequivocally do not take any significant effect on the aerodynamic properties of the car and which are limited to the adjustment to the ambient contour.
- A 15 It is permitted to apply one aperture on each side of the vehicle for the passage of the exhaust outlet port. The maximum dimension of this port results from an offset of 25 mm with regard to the interior surface of the exhaust tailpipe aligned at an angle of 45 degrees with regard to plane FL. The last 50 mm of the tailpipe are relevant for the size of the opening (see 5.9.1).



Z79 – Exhaust outlet port

It is permitted to cover the surfaces licked by the air stream within the area specified in table 8 below with

x	x	y	y
1.700	2.500	275	450

Table 8

a flame/heat protection, provided that the flame/heat protection does not have an offset of more than 2mm to the scaled contour at any point.

For attaching the heat protection, it is permitted to apply the maximum of 4 circular, maximum 4 mm deep recesses deviating from the scaled contour with a diameter of <15mm within the limited area.

3.9. Areas behind x = 2300

Parts of the race car which are located behind x=2300 mm and which are not visible in plan view (for the interpretation of these regulations, contour areas of the scaled vehicle which in plan view form an undercut, the spoiler lip, the rear wing including supports and the end plates are considered to be transparent, windows are considered to be non-transparent) may only be licked by diffuse air stream when doors and windows are closed.

Exceptions to 3.9.

- Parts of the drive shafts which protrude into the rear wheel arch*,
- Suspension parts (EB17-052/053) which protrude into the rear wheel arch*,
- Parts of the brake system which protrude into the rear wheel arch*,
- Parts of the brake duct (EB17-091/092)*,
- The gearbox oil cooler (LB component),
- Inner surfaces of air ducts of defined air (see Article 3.1.2 and 3.1.3),
- Points which must be visible in bottom view,
- Points of EB17 components which are not visible in plan view,
- Local recesses for safety fasteners,
- Areas of separation lines which are not visible in plan view.

*the referred parts are located below the design line

3.9.1 Openings in the contour

All openings in the contour above the design line must be closed in following the direct ambient contour in a logical manner.

Exceptions:

- In the area between the trailing edge of the front bonnet and the windscreen (water box), openings are permitted, provided that no mechanical components are visible in plan view, with the exception of the windscreen wiper arm and drive.
- The cooler exhaust air openings in the front bonnet.
- Openings within the standard cooling air inlets (radiator grille) must, provided that no closed air duct is connected, be closed immediately behind the standard moulded parts (grille, slats etc) which are located inside the cooler opening. At the latest these openings must be closed 40mm behind the foremost part which is located inside the cooler opening.
- Openings for closed air ducts are permitted within the area of standard cooling air inlets.
- Openings according to 3.9 A15 and according to 3.11.3.

Air intake openings which are located inside the standard cooling air inlets (radiator grille) behind the standard moulding of the radiator grill may have areas which are not visible in plan view.

3.10 Separation lines

All standard separation lines (separations with which components of the series production car which make up the contour can be divided non-destructively) of the contour (above the design line) must be preserved up to minimum 3 mm in depth. The gap size of the separation lines must correspond to those of the series production car (tolerance + 2 mm).

The separation lines of the front doors must in any case be preserved completely and functionally identical.

It is permitted to create any additional separation lines above the design line, provided that the scaled contour remains unchanged.

3.11 Windows

The windows must not be designed as hollow parts.

All the window surfaces licked by the air stream on the scaled vehicle must remain at their original position on the race car and have identical (corresponding to the CAD data set submitted) exterior shape and dimension and must be transparent.

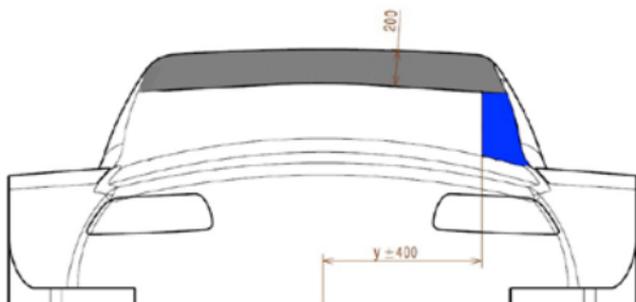
Exceptions:

- 1) For the installation of the EB component EB17-043 (quick refuel valve unit), the contour of the scaled windows on the right side of the car must be modified so that the quick refuel valve unit (EB17-043) may be fitted at any time without any additional modification of the contour. The modifications of the contour must be

strictly limited to the absolutely necessary dimension and be located within a block with the edge lengths of 350 x 200 x 250 (x, y, z).

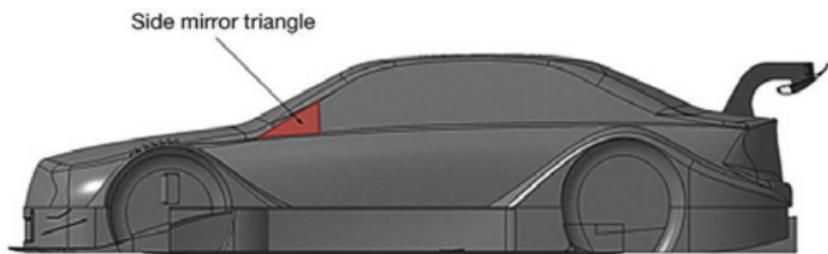
For events where refuelling under racing conditions is prohibited, it is permitted to provide the area of the scaled contour that may be affected by possible modifications with a corresponding cover of the unmodified contour of the scaled vehicle.

- 2) The windscreen may be cut 10 mm below the curve which, in front view, results from the projection of the front bonnet rear edge. The windscreen must be fitted with an electric window heating.
- 3) To extract the driver cooling air, it is permitted to apply apertures in the rear window. Only air that has previously been fed through the driver cooling air ducts into the cockpit and/or the service box may be extracted. The apertures must be located completely within the area marked in blue in drawing Z16. The area marked in grey in drawing Z16 results from an offset of 200mm of the upper window edge onto the contour of the window. The area marked in blue in drawing Z16 is valid symmetrically identical on both sides of the vehicle and is limited by the above mentioned offset of the upper window edge, the window section of the scaled contour and a plane running at $y=400$ parallel to the $y=0$ plane.



Z16 – Permitted area (blue) for apertures to extract the driver cooling air

- Number and shape of the apertures are free. The apertures may at no time during an event be less than the total of 10,000mm² or bigger than the total of 30,000mm².
 - No component which is in rear view visible through the apertures may be closer than 40mm to the inner contour of the rear window.
 - Design, dimension and location of the apertures form part of the homologation.
- 4) It is permitted to design the non-transparent areas for the fixation of the exterior mirrors on the scaled vehicle, if existing, in the front area of the front door windows (side mirror triangle) as transparent single piece together with the door window.



Z17 – Position side mirror triangle

Exception for 4 door vehicles:

If the front doors are lengthened in compliance with Article 3.13.1, the x dimension of the windows affected by the lengthening must change according to the x dimension of the lengthening. All the exterior points of the windows resulting from this lengthening must be licked by the air stream.

3.11.1 All the windows must be homogenously made out of hard coated polycarbonate.

The following minimum thickness must be respected

- Windscreen: 5.8 mm
- Rear window: 3.8 mm
- Side windows: 2.8 mm

The mounting principle is free.

For vehicles with frameless door windows it is permitted to reinforce the circumferential edge of the frameless window on the inside of the window. This reinforcement must follow the contour of the window and must not protrude by more than 35 mm into the window surface visible from the outside in side view. The polycarbonate door window must be in place underneath the reinforcement visible in side view from the outside and it must comply with the mandatory material thickness (2.8 mm) and design. The dimensions of the standard or scaled door windows with regard to their length and height may in no case be reduced as a result of this modification. The maximum permitted thickness of the door windows in the area of possible reinforcements, together with the reinforcements, is 40 mm.

It is permitted to design the rear door windows and triangle windows, if existing, as a single-piece. If the standard separation line runs between the rear door window and the triangle window, it is permitted to represent the separation line only visually. Mirror-coating of the windows is prohibited. A 200 mm high, lightproof sun strip on the polycarbonate, over the total width of the windscreen and starting from the upper edge of the windscreen and measured along the contour, is authorised.

A possible tinting of the windows must have a minimum luminous transmission in-

dex of 75 percent.

The use of safety film on the windscreen is permitted, on condition that the minimum luminous transmission index does not fall below 75 percent.

Only the lettering according to the sporting regulations of the DTM and the position display (EB17-090) are permitted on the windows of the vehicles.

3.12 Transition wheel cutout panel

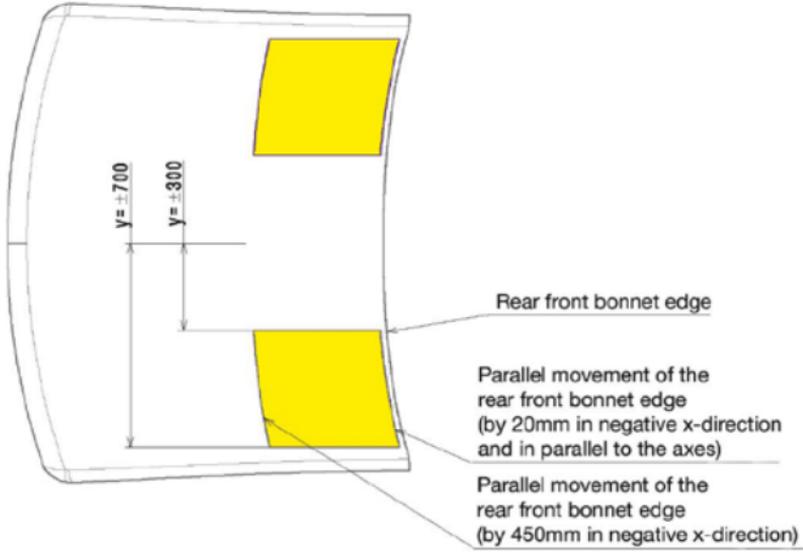
To create the transition to the wheel cutout panels, it is permitted to locally modify the contour of the front bonnet of the scaled vehicle. The area in which modifications of the contour are permitted is limited in y-direction by the projection of the design line in side view.

In no case may the local modifications of the contour be below the dimension $y = 600$ mm.

3.12.1 Cooler exhaust air opening

There must be a single opening in the contour for the extraction of the cooler exhaust air on either side of the front bonnet. The openings must be located on both sides in an area which is limited as follows:

- To the rear through the parallel movement of the rear front bonnet edge (by 20 mm in negative x-direction and in parallel to the axes).
- To the front through the parallel movement of the rear front bonnet edge (by 450 mm in negative x-direction).
- To the sides through $y=300/700$ mm.



Z18 – Eligible area for the cooler exhaust air openings on the front bonnet

It is permitted to modify the opening edges within a 20 mm wide strip by the maximum of 10 mm in positive z-direction with regard to the contour of the scaled vehicle, on condition that the complete modifications of the contour are located within

the area defined in this article for the radiator ventilation openings.

With the exception of the cooling air duct that joins the openings, no other component may be visible in plan view in the cooler exhaust air openings.

3.13 Doors/door hinges

The pivot of the doors must run vertically to plane z0 (tolerance: 10 degree).

It is permitted to integrate the rear doors of four-door vehicles solidly into the bodywork, on condition that the separation lines are retained up to a depth of 3mm.

The door hinges of the front doors must be designed so that it is possible to remove the complete doors manually without using tools.

Door hinges may only be used as pivots for the doors and must not assume any other function.

3.13.1 Door lengthening

The front doors of 4-door vehicles may be lengthened in x-direction by the maximum of 100 mm towards the rear, on condition that the contour of the vehicle, with the exception of the modifications absolutely necessary for the door lengthening, is not modified. For 4-door vehicles, the rear doors may be shortened by the actual dimension of the door lengthening. In no case must the modifications of the doors result in a modification of the contour.

The eligible modifications must not result in a modification of the total area of the side windows licked by the air stream with regard to the corresponding area on the homologated series production car.

Neither the single modifications nor the entirety of the modifications must result in any other function than the one intended (lengthening of the doors). It is at the discretion of the DMSB technical delegate to approve or not the eligibility of the above modifications.

The modifications must be indicated in the 3D CAD data set submitted to the DMSB.

3.14 Bumpers

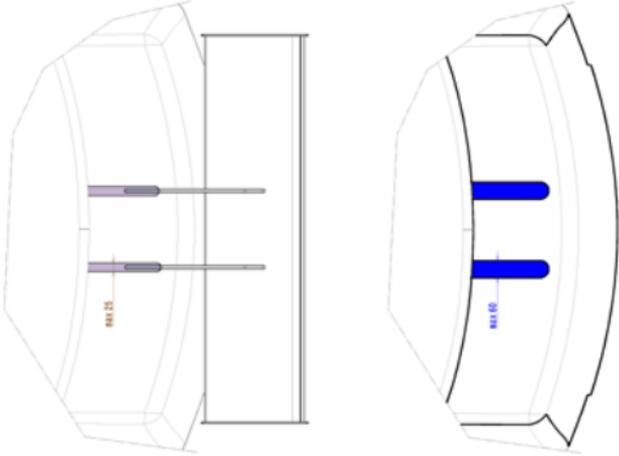
It is permitted to modify the contour of the bumper locally to create the advertising space specified in Article 3.21.8, on condition that the modification is strictly restricted to the creation of the minimum surfaces required for design, location and dimension.

3.15 Boot lid/spoiler lip

For the passage of the rear wing support struts, it is permitted to create two slots, open towards the rear window, in the boot lid. These slots may reach no further than up to x=3,570 mm. The distance between the side edges of these slots must not be more than 60mm from each other.

The clearance of the slots must at no point be more than 25 mm, when fitted to the car.

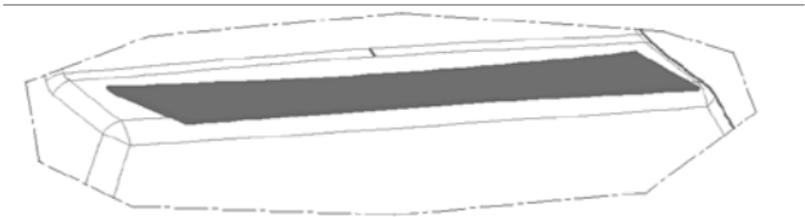
It is permitted to partly or totally close the slots with inserts and/or adhesive tape which must follow the scaled contour. The separation lines resulting from the total or partial closing of the slots are permitted and do not fall under the provisions defined in article 3.10.



Z19 – Passages rear wing support struts

3.15.1 Transition of the spoiler lip

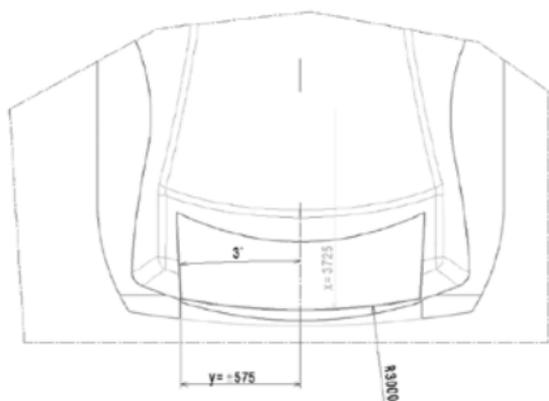
The “spoiler lip” (SB17-004) will be available as CAD data set on the platform and must be attached to the boot lid as specified in the drawing below.



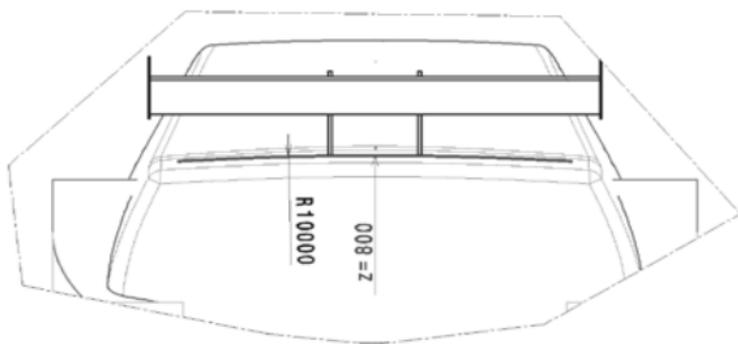
Z20 – Visible upper side of the spoiler lip

The centre point of the radii indicated ($R = 3,000$ and $R = 10,000$) is located on plane FL.

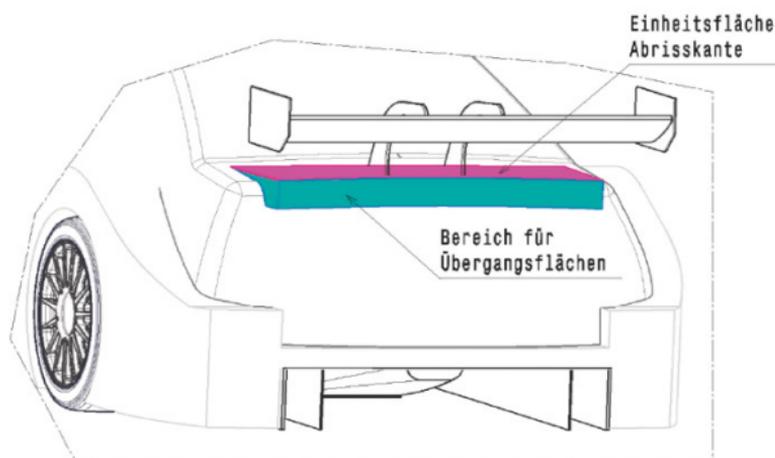
The upper side of the spoiler lip represented in the data set must be completely visible in plan view (without rear wing and rear wing support).



Z21 – Installation position of the spoiler lip – plan view



Z22 – Position spoiler lip in rear view



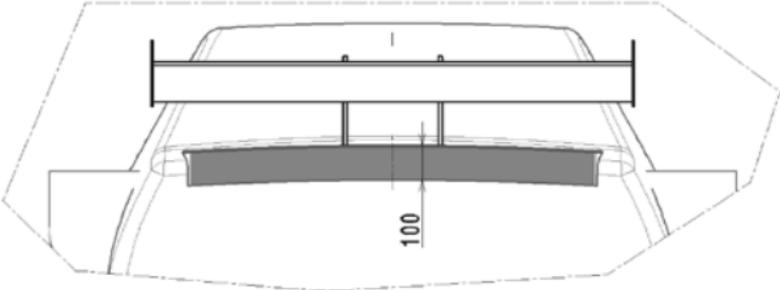
Z23 – Transition area spoiler lip/standard contour

For the purpose of an individual design of the transition of the spoiler lip into the scaled standard contour, an area below the spoiler lip shall be available which is limited by an offset of the spoiler lip rear edge by 100 mm parallel to the negative z-direction.

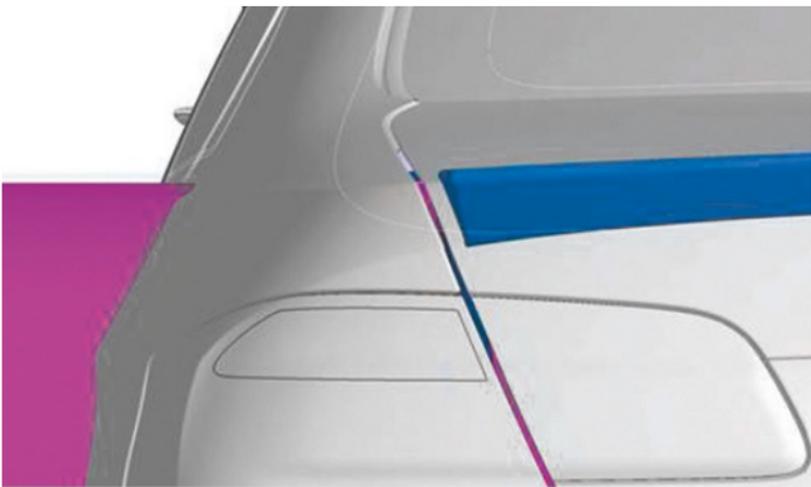
The design of the transition is not subject to any restrictions, on condition that no areas/surfaces of the transition are visible in plan view (without rear wing and rear wing support), with the exception of the eligible transition radii, and on condition that the transition areas or transition contours are running tangentially to the compulsory radii of the standard surface.

The eligible transition radius between the spoiler lip and the scaled standard contour is 5 mm.

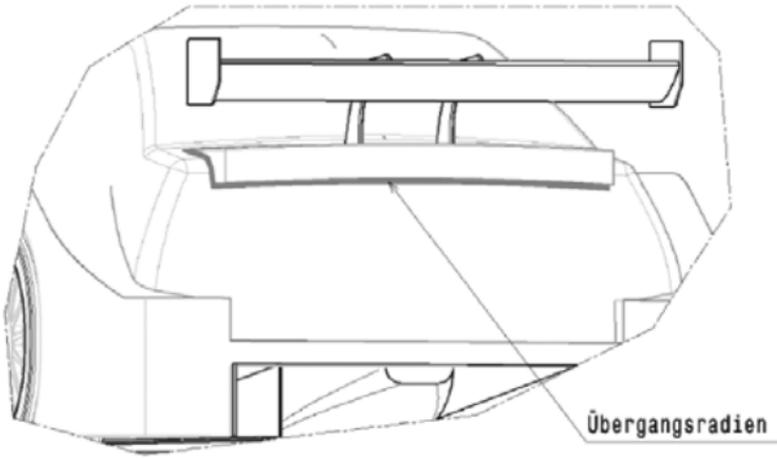
It is permitted to chamfer the edges of the spoiler lip which are not in contact with the contour with a maximum radius of 5 mm.



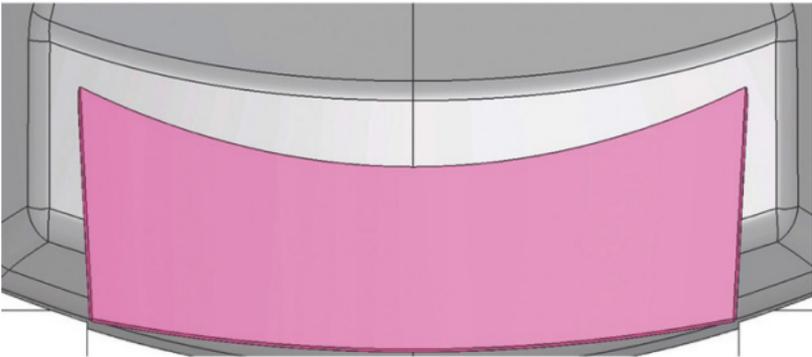
Z24 – Transition area spoiler lip /standard contour



Z25 – Transition area spoiler lip /standard contour



Z26 – Area of the eligible 5 mm transition radius to the scaled standard contour



Z27 – The transition areas to the standard contour must not be visible in plan view.

In the case that parts of the scaled vehicle penetrate into the spoiler lip when fitted according to the regulations, the protruding parts of the standard contour must be removed.

In any case, the fitted spoiler lip including all transition areas/ contours must be submitted to the technical delegate with a sufficient advance so that modifications can be performed upon the request of the technical delegate in time before the homologation.

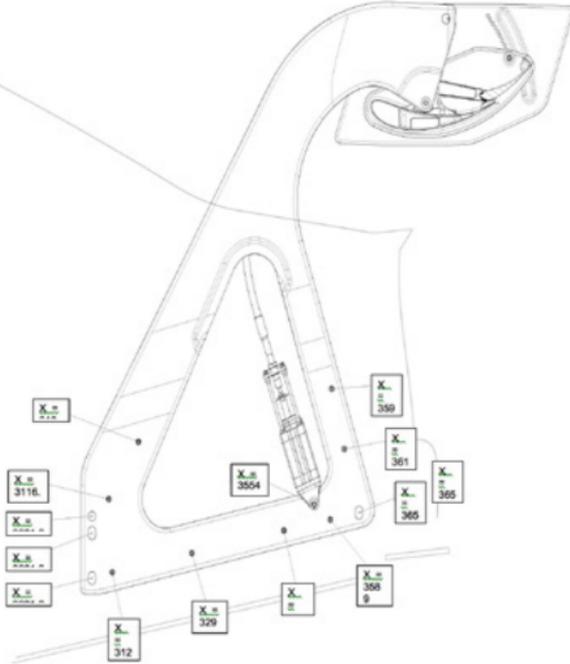
The modifications of the standard contour as well as the position of the spoiler lip and the design of the transition areas/ contours must be recorded in form of CAD data sets. These CAD data sets form part of the homologation of the race car.

3.16 Rear wing

The rear wing (EB17-028) has areas which are not visible in plan view.

All components of the rear wing (EB17-028) must at all times during an event be mounted in the mandatory manner and position.

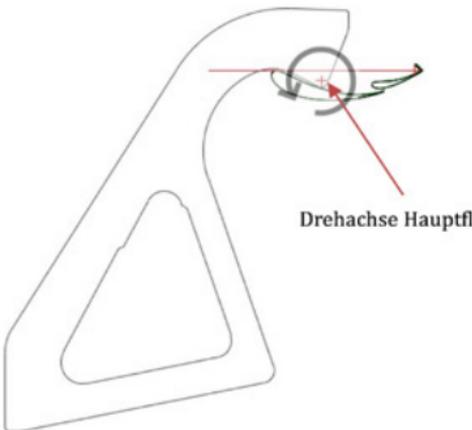
It is permitted to use the openings of the rear wing supports (EB17-028.02) marked in the drawings (Z28) below for the individual attachment of components.



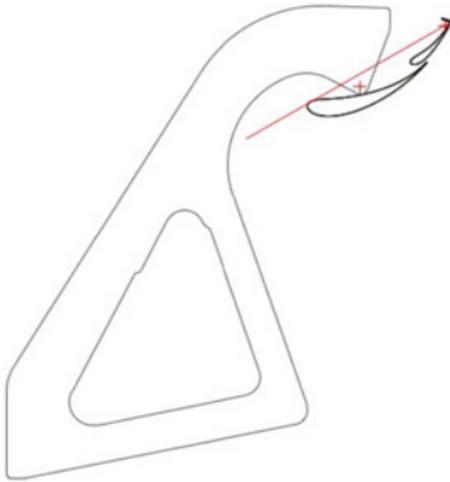
Z28 – Openings in the rear wing support which are located inside the contour and which may be used for individual connections.

It is permitted to cover the wing supports in the transition area rear wing support/ boot lid with a maximum 40mm high (Z) and 1mm thick protective material.

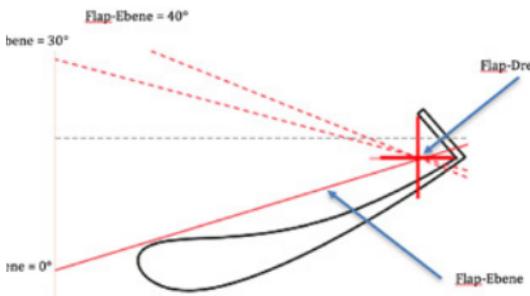
Based on a measuring plane, that runs in parallel to the $z=0$ plane (see drawing Z110) according to the drawing Z109 when the DRS is not activated the main wing and flap assembly may be rotated max. 30° around the axis of rotation of the main wing defined in drawing Z10911 whilst the car is stationary. The specified sense of rotation of the main wing and flap assembly is likewise defined in drawing Z29109. The wing may be fixed in any position resulting from this rotation (set up position).



Z109: Starting position rear wing measuring plane and permitted sense of rotation



Z110: Position of the measuring plane for the max. set up position



Z111: Position of the flap plane (red line)

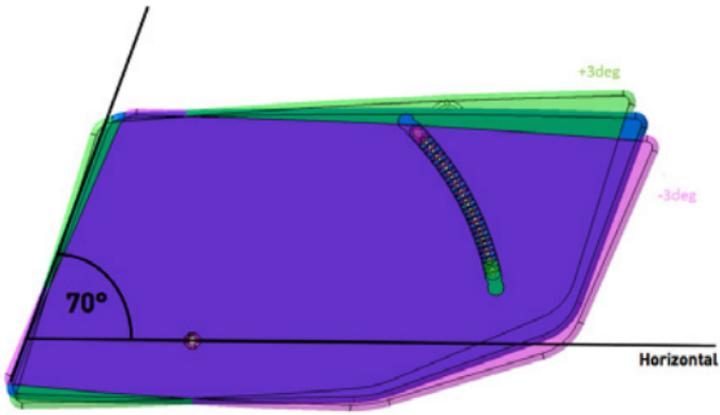
It is permitted to rotate the flap around the flap rotation axis defined in drawing Z111 from its set up position through the activation of the DRS for the permitted duration of the DRS activation (active position).

The following restrictions apply:

For the duration of the DRS activation the flap must rotate either 30° (tolerance -2°) or 40° (tolerance -2°) around its rotational axis based on the resulting flap plane (=0°) of the respective set up position.

With the DRS deactivated the gap running in y-direction between main wing and flap may at no point be bigger than 8 mm and may at no point be smaller than 5 mm. In order to check these specifications, spherical test specimens with a diameter of 5 mm and respectively 9 mm are used. The smaller sphere must and the larger sphere may not fit through the gap.

Regardless of the position of the main wing and with reference to the Z0-plane (=0°) the top edge of the rear wing end plates may only be rotated by a maximum of +/- 3 Grad (see Z 124).



Z124: Permitted adjustment range of the end plates

The following applies for the flexibility of the rear wing:

The rear wing mounted completely to the vehicle may deflect no more than 8 mm vertically when a load of 1,500 N is applied vertically and downwards.

The maximum permitted deflection with a rearward applied load of 600 N is 5 mm in the direction of the applied load.

The test shall be carried out as follows

1) Measurement in Z

An initial load of 100 N in form of a 1,350 mm long moulding which follows the wing contour is applied between the rear wing end plates. A load of 1,400 N is then applied to the moulding. The deflection of the rear wing will be checked at the upper edges of the end plates.

2) Measurement in X

The wing profile is positioned so that the measuring plane runs in parallel to plane z0. A load of 300 N (in total 600 N) is then applied at the profile front edge, at the level of each rear wing support respectively, in parallel to plane z0 and in positive x-direction.

The deflection of the rear wing will be checked at the two front edges of the end plates.

3.16.1 DRS

The complete DRS is a standard component (EB17-028).

In compliance with the regulations may the position of the rear wing flap be modified whilst the car is in motion.

Any other means or device which enables the modification of the flap and/or main wing position whilst the car is in motion is prohibited.

The use of the system is bindingly governed in the sporting regulations.

3.17 Roof hatch

In an area which is limited by

x	x	y	y
1.700	2.130	0	440

Table 9

there must be a rectangular volume with lateral extensions of at least 420 x 420 mm above the driver's helmet and below the roof outer panel. No part of the car must be within this volume, with the exception of a possible protective padding on the rollover structure.

3.17a

It must be possible to open the roof panel above the volume specified under 3.17. The opening must be rectangular and have an edge length of at least 420 x 420 mm (tolerance ± 5 mm). It is permitted to round off the corners of the opening with a maximum radius of 80 mm.

3.17b

The opening must be closed with a cover.

The cover must be fixed with four quick-release fasteners (LB17-004). It must be possible to operate these quick-release fasteners from the outside of the vehicle.

The separation lines resulting from the cover must have a maximum clearance of 2 mm and the gaps must not be bridged by decorative strips.

The homologated contour must not be modified through the cover and the modifications must not have any aerodynamic effect.

Sunroofs on the race car are prohibited.

3.18 Lighting

All components of the outside lighting form part of the homologated contour. It is permitted to use the unscaled contour of the lighting elements (cover glass). In this case, it is permitted to cut the original contour of the lighting elements, on condition that the only purpose is to adapt the contour of the lighting element to the scaled openings in the bodywork.

In all cases, all lighting elements must be in working order throughout the entire duration of the event. All the transparent surfaces of the headlamps of the homologated series production car must also be transparent on the race car.

Exception:

For parts of lighting assemblies which are located below the design line the design guidelines of the respective area apply.

3.19 Exterior or interior mirrors

An interior mirror which enables a view to the rear must be present.

The race car must have one (1) exterior mirror (EB17-0767) on each side which is, including all brackets and adjustment mechanism, located entirely inside the mirror box defined below in table 75 but outside the scaled contour.

With the exception of the exterior mirror and the mirror stalk no part may be located inside the mirror box (only applicable to parts of the mirror box located outside the scaled contour). There may be points inside the mirror box which are licked by the air stream but which are not visible in plan view.

Dimension and position of the mirror boxes

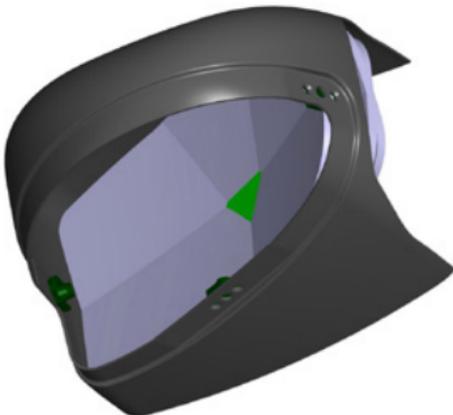
x	x	y	z	z
650	1150	975	500	900

Table 75

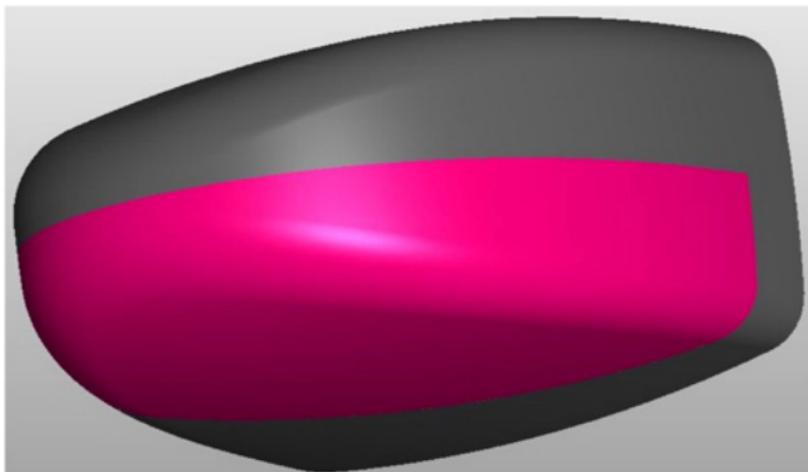
The position (x, y, z) of the completely installed mirror housing can be moved individually in x, y, and/or z if all points of the mirror housing are moved by the same coordinates regardless of the position of the CAD model filed on the DMSB server.

The following provisions apply for the mirror stalks (connecting element between exterior mirror housing EB17-0767 and vehicle contour):

- It must be located entirely inside the mirror stalk box defined in drawing Z100 and filed on the DMSB server.
- Its position in relation to the contour and mirror will be homologated
- It may not form a closed air duct
- All components necessary for its attachment to the exterior mirror must be located inside area A (see drawing Z112 and specification sheet exterior mirror)
- With the installed mirror stalk the area A according to drawing 112a must be closed entirely. With the exception of the mirror stalk no part may be outside the mirror housing.



Z112: Area (A) for attaching the mirror stalk

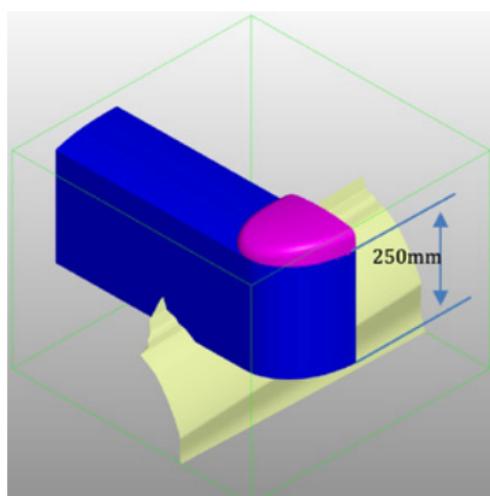


Z112a: mirror housing with closed attachment area

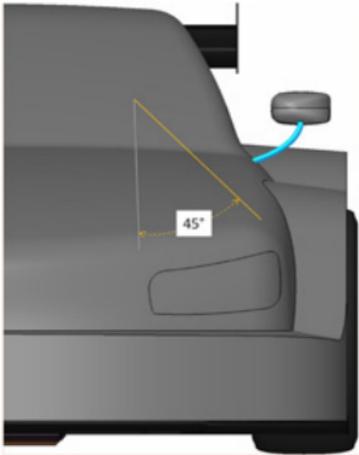
- It may not be attached to transparent parts of the contour
- For every 45° section (FL plane rotated 45° , see drawing Z114) only one (1) geometric form may result which must be closed.

Exceptions:

- 1.) At the interface mirror stalk/vehicle contour the resulting profile may also be closed by the contour of the scaled vehicle.
- 2.) At the interface mirror stalk/mirror housing the resulting profile may also be closed by the mirror housing.



Z113 – Mirror stalk box (blue)



Z114: Orientation of the plane rotated 45° (symmetrically identical on the RHS)

The scrutineers must be assured through a practical demonstration that each of these exterior mirrors is mounted so that the driver, when seated normally with his safety belts fastened and the steering wheel in place, can clearly see a vehicle driving or standing behind him to the side. The line of sight of the driver may only be redirected once.

To this end, the driver may be asked by the scrutineers to identify digits 150 mm high and 100 mm wide, placed behind the race car according to the following terms:

- Height from the ground: 1,000 mm to 1,400 mm
- Distance to plane FL (right or left): 2,000 mm
- Distance behind the race car (in relation to the centre line of the rear axle): 10,000 mm

The mirror stalk or its mounting on the vehicle must have a predetermined breaking point which must be designed so that the following provisions are met:

Immediately after a force ($F=100\text{N}$ in positive x-direction) is applied to the foremost point of the mirror housing (EB17-076) in driving direction no part of the housing or mirror stalk that remains in contact with the vehicle may be outside the scaled contour.

Exception:

Parts of the mirror stalk if they are not located more than 100mm outside the scaled contour.

3.20 Material and weight specifications for all bodywork parts above the design line

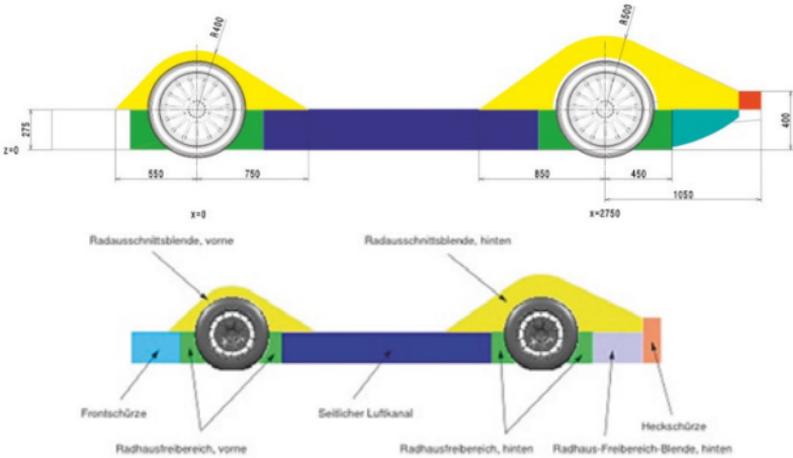
These material specifications are applicable for the complete component, unless otherwise indicated. If several materials are permitted, the corresponding compo-

ment must nevertheless be made out of one single material only. If not otherwise indicated, beryllium, ceramic materials, titan, sintered materials, beryllium and boron alloyed aluminium (BORALYN) are prohibited, even if the material specification states “free”.

Component	Material specification
Window reinforcement	FREE, including CFRP
Rear wing end plates	FREE, including CFRP

3.21 Bodywork design below the design line

All surfaces of the race car which are licked by the air stream with closed doors and windows and which are located below the design line must comply with the contour filed during homologation in form of a 3D-CAD record for the race car.



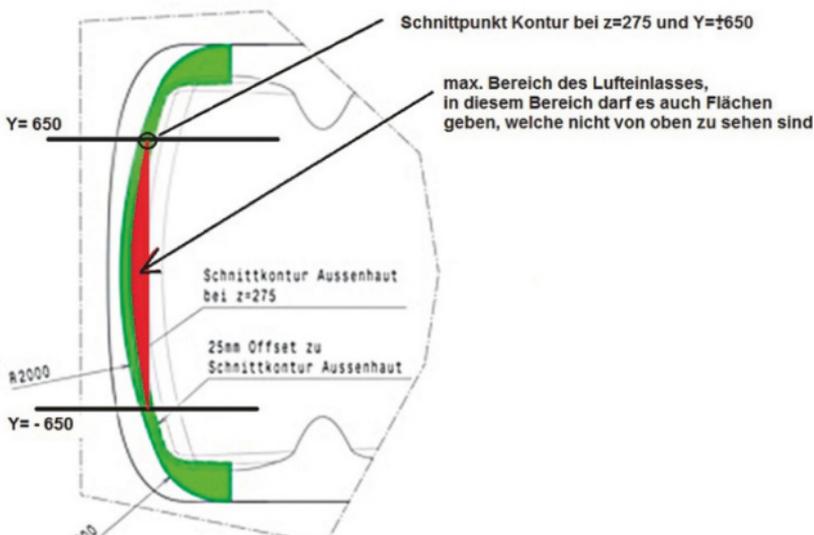
Z30 – Areas below the design line

3.21.1 Contour design

- a) An individual design of the shape of the contour below the design line which can be licked by the air stream when doors and windows are closed is permitted, on condition that they are completely visible in plan view.
- b) The areas/ surfaces of the contour of the scaled car which are visible in front, rear or side view and which – whether below or above the design line – form an undercut in plan view are considered to be transparent for the application of these regulations.

Exceptions for a)

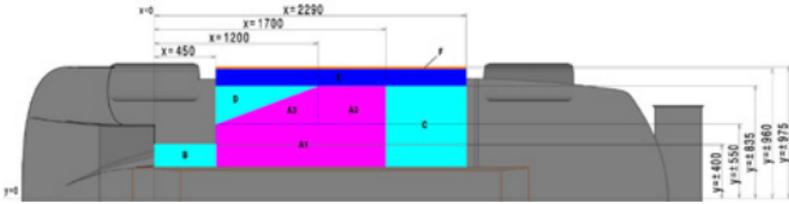
<p>Points/ areas/ surfaces on the race car which may be licked by the air stream and which may do not have to be visible in plan view</p>	<p>Parts inside a bargeboard box</p> <ul style="list-style-type: none"> • The underbody • Points of the front diffuser with add-on parts visible in bottom view • The wheel arches • Components within the wheel arch clear areas • The inner surfaces of closed air ducts • Eligible openings in the wheel cutout panels (e.g. rear wheel arch ventilation) • Parts of the front skirt • Parts of the rear skirt • Panels of the rear wheel arch clear areas • Areas with have been legally modified for the attachment of the bonnet fasteners • Friction blocks • Skid block • Engine shear plate • Wheels • Suspension components which protrude into the wheel arch • Area to exhaust diffuse air above rear diffuser • The air jacks • Part of the contour inside the area marked in red in accordance with drawing 101. • The cockpit and the service box, provided that the air stream is introduced through a driver cooling duct • Points inside the flick box
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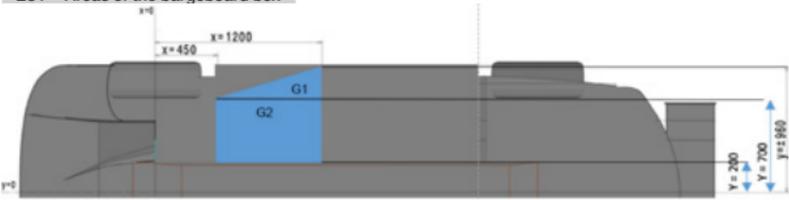
z101 Area (red) of the contour which do not have to be visible in plan view.

3.21.2 Bargeboard box

The bargeboard box runs on both sides of the race car and consist of 9 areas defined below in drawing Z31 and Z31a and table 10.



Z31 – Areas of the bargeboard box



Z31a – Areas inside the bargeboard box in which one (1) closed air duct may be located

Provided that all design requirements defined in table 11 are fully met components inside the bargeboard box may form one (1) closed air duct. Provided that the duct is located completely inside the area G composed of G1 and G2. The duct may only have one air inlet and one air outlet opening and must be mirror identical on both sides of the vehicle.

	from x =	to x =y	from y =	to y =	from z =	to z =
Area A1	450	1700	0	550	10	275
Area A2	1200	1700	550	835	10	275
Area A3	450	1200	550	835	10	275
Area B	0	450	0	400	10	275
Area C	1700	2300	0	835	10	275
Area D	450	1200	550	835	10	275
Area E	450	2300	835	960	10	275
Area F	450	2300	960	975	10	275
Area G1	450	1200	700	960	10	275
Area G2	450	1200	200	700	10	275

Table 10

The design of the individual areas of the lateral air ducts bargeboard box are is subject to the following restrictions:

		Area A1, A2 and A3	Area B, C and D	Area E	Area F
1	All points/surfaces licked by the air stream, must be visible in bottom view starting from z=10	X	X		
2	All points/surfaces licked by the air stream must be visible in side view. The areas D, E and F are considered to be transparent in this view.	X			
3	No design guidelines			X	
4	No components inside this area				X

Table 11

Exception to row 1 of Table 11:

The following parts, points and/or surfaces do not have to be visible in bottom view starting from z=10mm:

- a) EB parts of the suspension
- b) Parts of the prop shaft and areas of EB17-001 which are covered by the prop shaft.
- c) In Areas in direct proximity to air inlet openings of closed air ducts provided that the respective point/surfaces:

- are not below 100mm (in y)
- measure on both surfaces together not more than 50.000mm²
- are visible in top view originating from a virtual plane parallel to plane z0 (±10 degree) and
- originating from the same plane are visible in bottom view. Both views must be mirror identical.

The respective areas are considered to be part of the contour up to the beginning of the adjoining air duct (duct is closed for the first time with the moved plane KV).

The exception c) is only valid if it is solely used to form openings that are generally

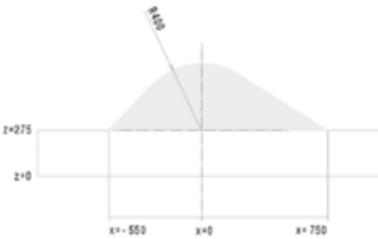
known as NACA ducts and which sole purpose is to direct air into the adjoining air duct. It is at the sole discretion of the Technical Delegate to decide whether or not these conditions are respected

3.21.3 Wheel cutout panels

The limits of the bodywork areas defined as wheel cutout panels are defined

at the front wheels

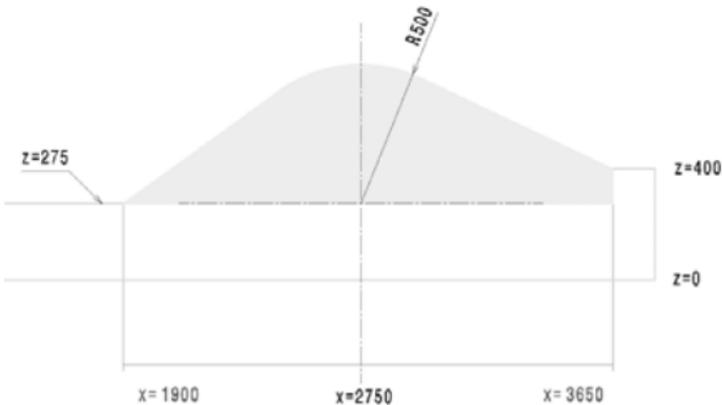
- by a radius=400 mm on plane FL, the centre point of which is located at $x=0$ and $z=275$.
- by a tangent starting at $x=-550$ mm / $z=275$ mm
- by a tangent starting at $x=750$ mm / $z=275$ mm
- by $y > 600$ mm
- by a straight in parallel to plane $z=0$ from $x=-550$ until $x=750$ in $z=275$



Z33 – Front wheel cutout panels

at the rear wheels

- by a radius=500 mm on plane FL, the centre point of which is located at $x=2,750$ mm and $z=275$ mm.
- by a tangent starting at $z=275$ mm and $x=1,900$ mm
- by a tangent starting at $z=400$ mm and $x=3,650$ mm
- by a straight in parallel to plane $z=0$ from $x=1,900$ until $x=3,650$ in $z=275$
- by $y > 580$ mm



Z33a – Rear wheel cutout panels

3.21.4 Design of the wheel cutout panels

3.21.4a Wheel cutout front panels

The following applies for the design of the wheel cutout front panels:

- a) No part of the wheel must be visible in front view (straight-ahead driving).
- b) All the areas/surfaces which are licked by the air stream must be visible in plan view.

Exception:

It is permitted to provide louvres which comply with the below design specification in the below areas of the front wheel cutout panels.

	x	x	y	y	z
Front	-200	150	850	965	Side view design line+ 18mm

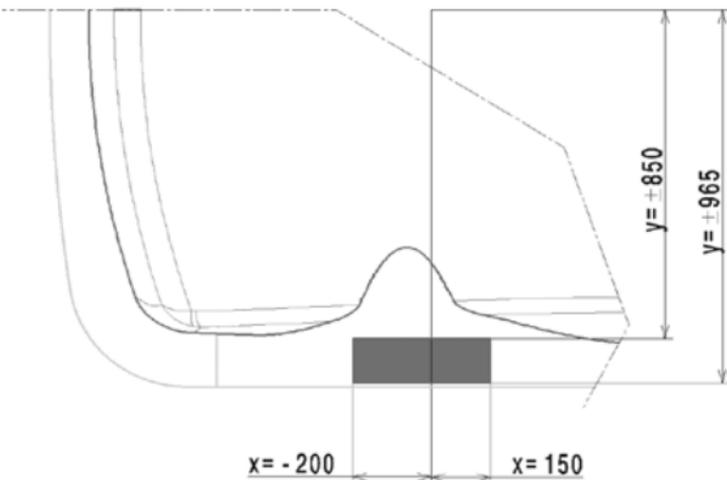
Table 12

The maximum of 7 louvre openings are permitted. The distance between two openings must always be 5 mm if more than one louvre is present. Wheel parts may only be visible in plan view through the openings resulting from the design of the louvres according to the regulations.

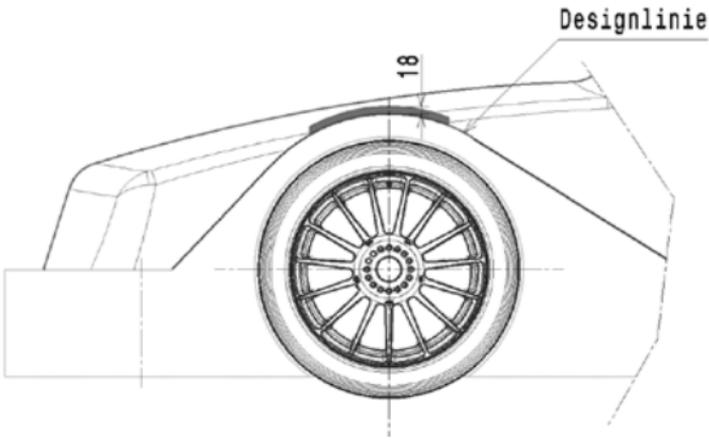
The design specifications represented in the below drawings Z34 to Z39 are binding for the louvres.

An individual (not actually existing) contour which, in side view and at each y-section, forms a curve without turning point must be homologated as reference plane for the louvre dimensions below the design line and below the louvers.

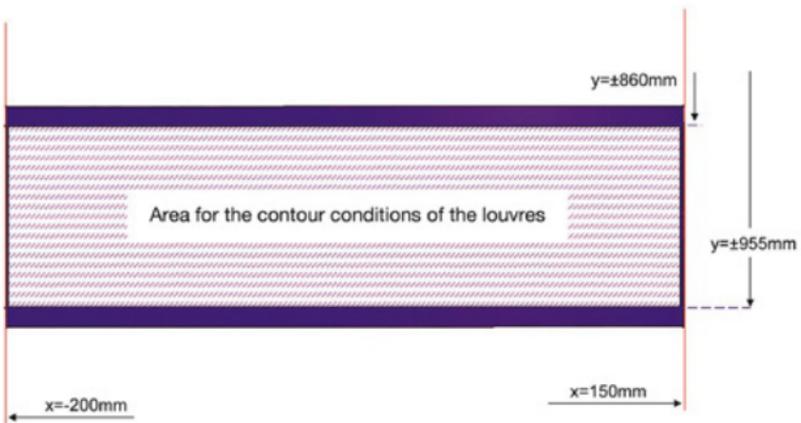
All the air flowing through the louvres must be directed in a closed air duct from the wheel arches to the louvres.



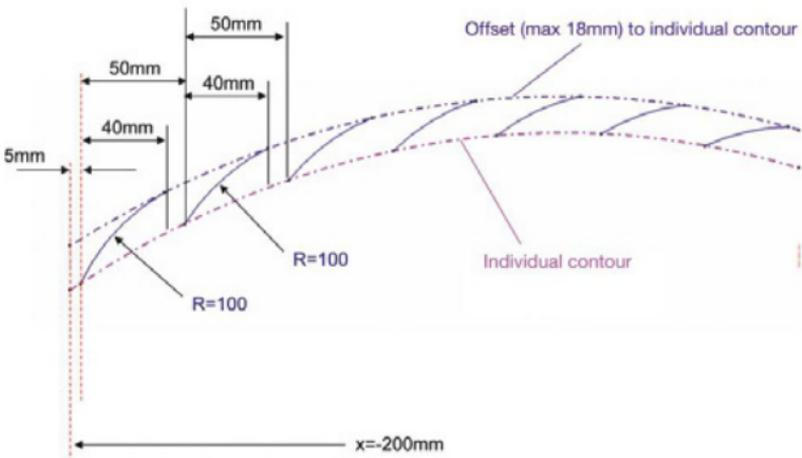
Z34 – Permitted area for the louvres



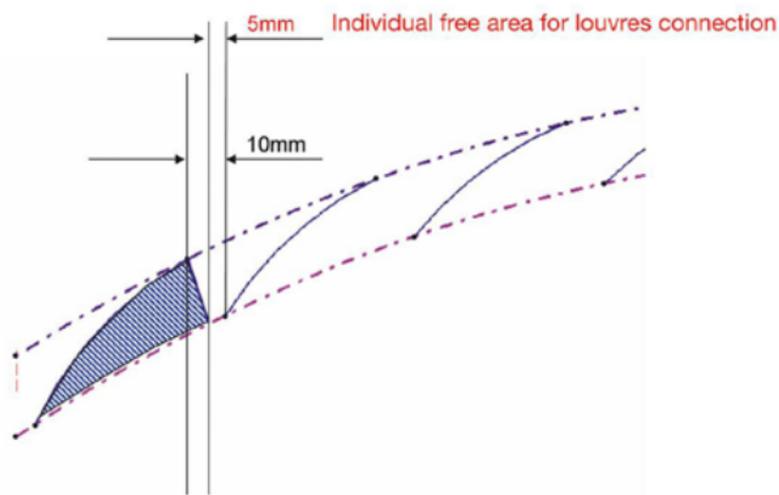
Z35 – Maximum dimension of the louvres in z



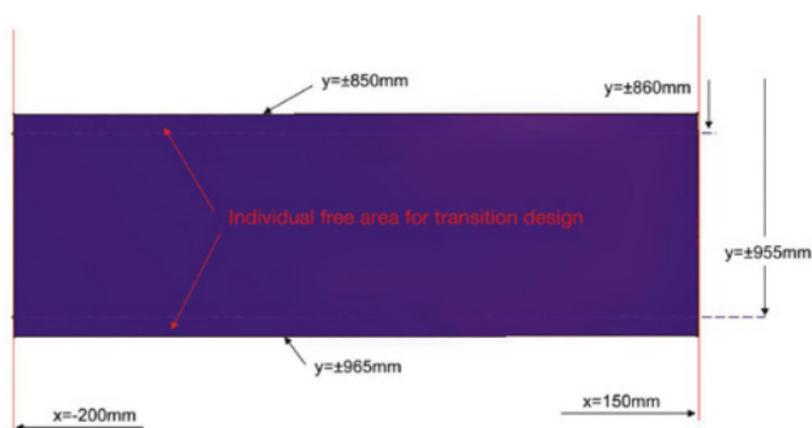
Z36 – Area for the contour conditions of the louvres



Z37 – Mandatory design specification for sectional view of the louvres



Z38 – Individual free area for louvres connection



Z39 – Individual free area for transition design

3.21.4b Wheel cutout rear panels

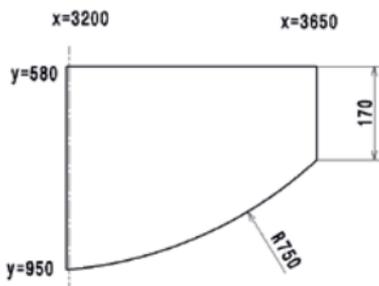
The following applies for the design of the wheel cutout rear panels:

- All the areas/surfaces which may be licked by the air stream must be visible in plan view.
- The enclosed volume must be big enough to accommodate the solid body defined in the below drawings Z40, Z41 and Z42 if it's rectangular surface area is positioned in parallel to plane VA.

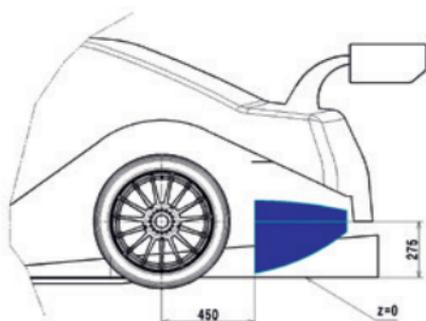
The solid body must not be visible in any view and must not be licked by the air stream.



Z40 – Mandatory dimensions of the solid body above $z = 275$ (side view)



Z41 – Mandatory dimensions of the solid body above $z = 275$ (plan view)



Z42 – Volume body installation position

Exception to a):

The inner surfaces of the air duct of the eligible wheel arch ventilation (see Article 3.22.10) do not have to be visible in plan view.

No part of the rear wheels must be visible in rear view in the area of a wheel cutout panel.

Exception:

If the wheel cutout panel is provided with an air duct in accordance with 3.22.10, it is permitted that parts of the wheels are, in rear view, visible through the air duct.

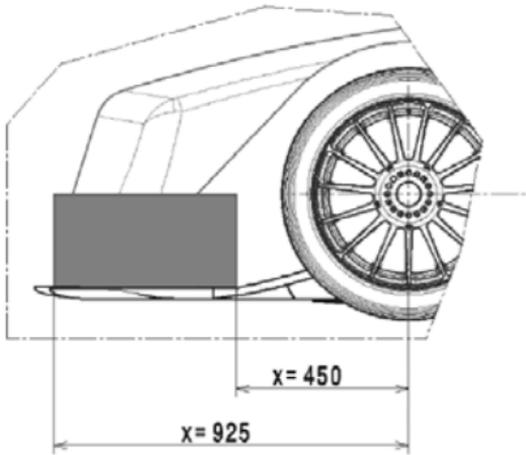
No part of the rear wheels must in front view be visible within the maximum contour starting from a section running in parallel to plane VA at $x=1900$ above $z=0$.

3.21.5 Front skirt

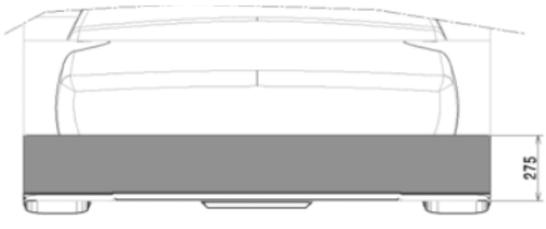
The front skirt runs on both sides of the vehicle, outside the contour section which results in plan view at $z=275$ on the race car (25 mm offset to the contour characteristics defined in drawing Z43-Z35) and in the below defined (table 13) area:

X=	X=	y=	y=	Z=	Z=
-450	-925	0	975	top surface front difuser (EB17-075)	

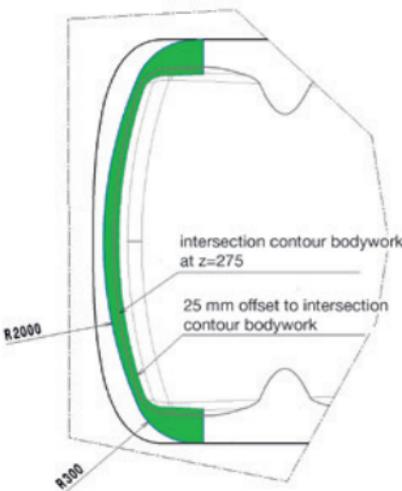
Table 13



Z43 – Characteristics/area front skirt (side view)



Z44 – Characteristics/area front skirt (front view)



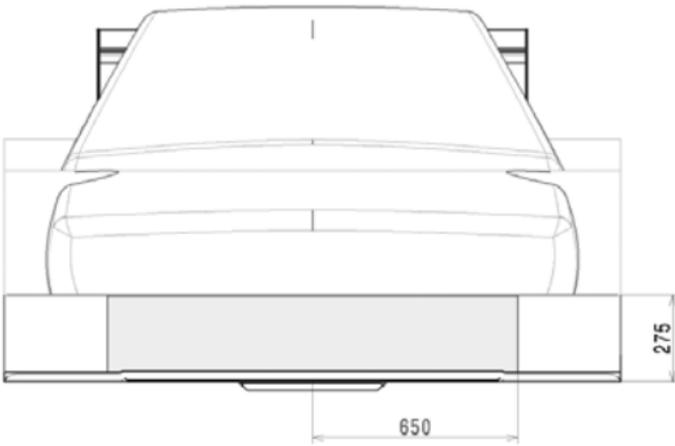
Z45 – Characteristics/area front skirt (plan view)

The design of the front skirt is subject to the following restrictions:

- a) Areas which are licked by the air stream do not have to be visible in plan view.
- b) Above $z=5$ until $y=970$ mm, no part of a front wheel must be visible in front view (when driving straight ahead)
- c) Air inlet openings for the connection of closed air ducts in the front skirt are only permitted in the area below (table 14 and drawing Z46).

	y	z	z
0	650	0	275

Table 14

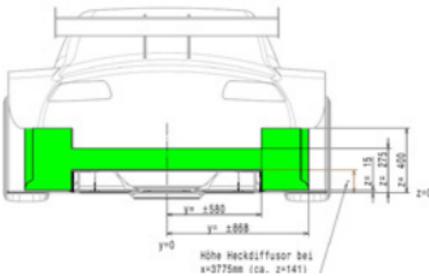


Z46 – Eligible area for openings in the front skirt

Only air, defined according to article 3.1.3 may be conducted through openings in the front skirt. The corresponding closed air duct must be directly connected to the opening in the front skirt. All the air which is fed in the front skirt through openings must be conducted in closed air ducts to the corresponding destination (see Art. 3.1.2/3.1.3).

3.21.6 Rear skirt

The rear skirt runs on both sides of the race car between $x=3,650\text{mm}$ and $x=3,800\text{mm}$ according to the green surfaces and dimensions in below drawing Z103:



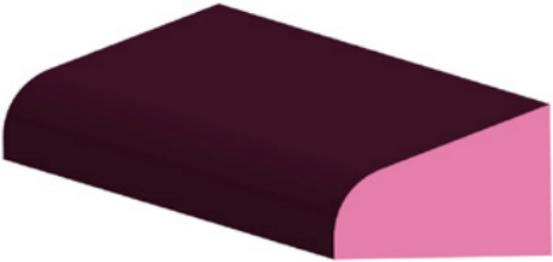
Z103 – Rear view of the rear skirt area

The rear skirt must at no point protrude in plan view over the maximum contour (see drawing Z 15).

The design of the rear skirt is subject to the following restrictions:

- a) No part of the rear skirt may cover parts licked by the air stream of the underbody (EB17-082) and/or the rear diffuser (EB17-078) in rear view.

- b) A rain light (EB17-093) must be mounted completely inside the allocated design space (drawing Z97.1/table 50). Viewed from the rear all LEDs of the rain light must be completely visible.
- c) The section of the rear diffuser defined in drawing Z116 must be fully visible in side view.
- d) Inside the “rear restricted volume” (see drawing Z104 and DMSB, mandatory regulation files, SB17-014 volume “rear skirt”) no part of the vehicle may be located.



Z115 – Depiction of the „rear restricted volume“ within no part of the vehicle may be located.

- e) All points licked by the air stream above $z=275\text{mm}$ must be visible in plan view
- f) All points licked by the air stream below $z=275\text{mm}$ with the rear diffuser (EB17-078) installed must be visible in bottom view when the rear diffuser is dismounted.
- g) With the exception of openings for the wheel arch ventilation according to 3.22.12 no openings in the rear skirt may be present.

Exceptions to e):

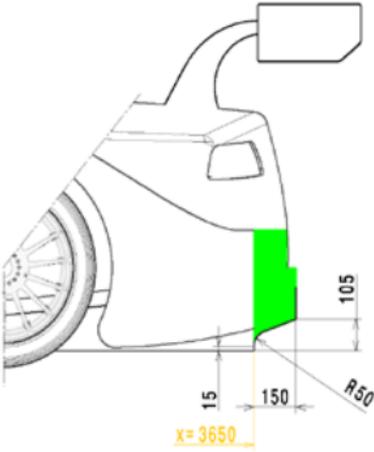
Areas/surfaces of the scaled vehicle which are visible in rear view and which are covered by undercuts in plan view.

Exceptions to g):

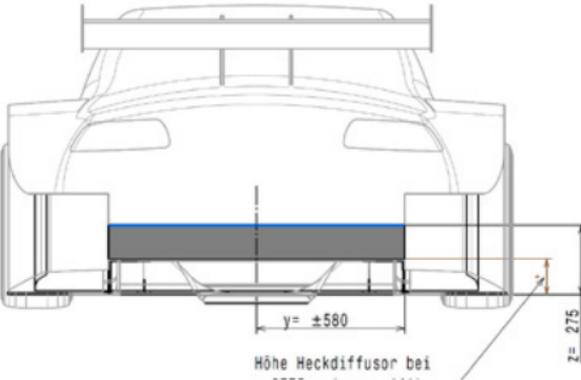
Openings for the discharge of diffuse air may be present in the rear skirt in an area which is limited by:

y	z	z
580	141	275

Table 16



Z116 – Section of the rear diffuser which must be visible in side view



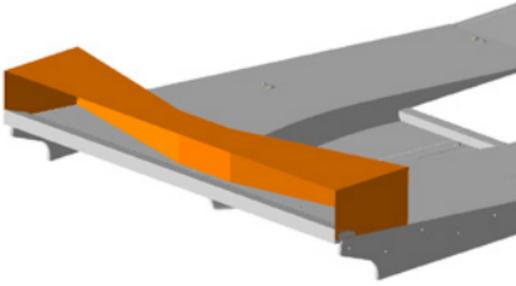
Z47a – Eligible area (grey) for openings and the discharge of diffuse air

3.21.6a Contour shape rear bumper (SB17-019)

For the areas represented in drawing Z47a for openings to discharge diffuse air the shape of the contour is defined by

- a) the virtual body represented in drawing Z97 and Z97a and deposited on the DMSB-SB17-server and/or
- b) components within the represented area.

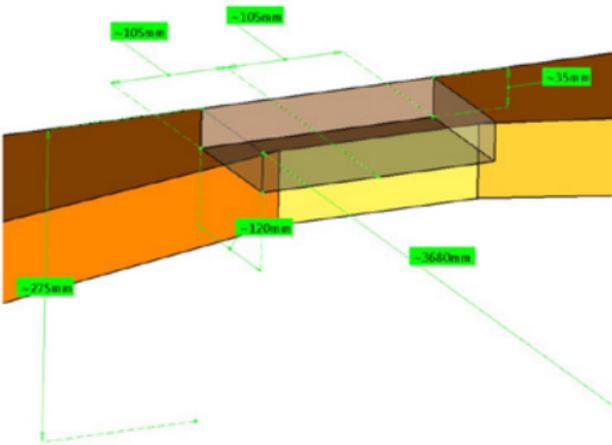
Points/surfaces may be located inside the area for openings to discharge diffuse air which are licked by the air stream but which are not visible in plan view.



Z97 – Contour shape rear bumper



Z97a – Contour shape rear bumper



Z97.b – Permitted design space for the rain light

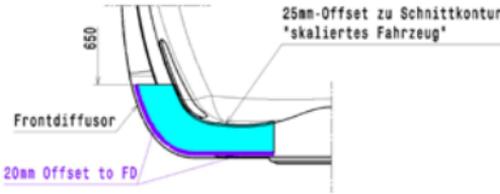
X	X	y	Z	Z
3680	3800	105	240	275

Table 50

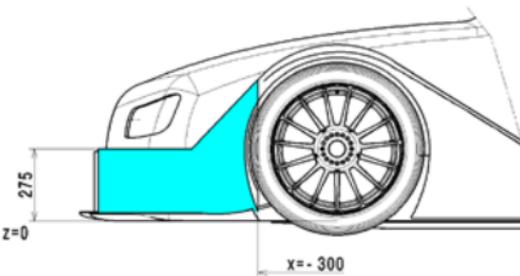
3.21.7 Flick Box

In an area (flick box) which is limited by:

- a) $y > 650\text{mm}$
- b) $x < -300\text{mm}$
- c) 20mm offset of the front diffuser contour.
- d) 25mm offsets to the contour of the scaled vehicle
- e) the design line
- f) the top surface of the front diffuser



Z49 – Area flick box (turquoise) and joints of add-on part (green)



Z48 – Area flick box (turquoise)

It is allowed to design the contour on both sides of the car mirror identical in such a way that not all points which are licked by the air stream are visible in top view. Additionally, the following design specifications are mandatory:

3.21.7a

A maximum of 6 components are permitted inside the flick box. A maximum of 3 of these components are flicks, a maximum of 3 of these components are struts.

The following applies for allevery flicks:

- a) All surfaces licked by the air stream must run in parallel to the y-axis

Exception to a):

Surfaces resulting from the mandatory radii in the edge area

- b) All points licked by the air stream must be visible in side view (with the struts detached)

Exception to b):

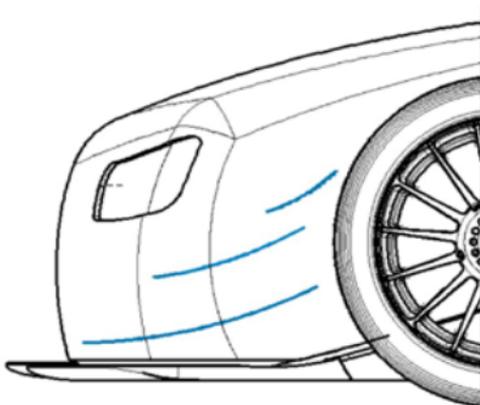
Surfaces resulting from the connection of the upper and lower flick surface through radii (see exception to d) and which face the $y=0$ plane.

- c) Every section parallel to the FL plane must only produce one (1) profile. This profile must be closed.
- d) The distance between the upper (plan view) and lower (bottom view) surface of a flick must at no point of the surface be smaller than 2mm (min. dimension) and greater than 5mm (max. dimension).

Exception to d):

At the edge area of the flick (10mm offset to the contour visible in plan view) the lower and upper surface of the flick must be connected by a radius $r \leq 2,5\text{mm}$. In the area of the radii the specified material thickness (distance upper/lower surface) may be undercut through the application of radii.

- e) A maximum of one strut may be attached to the lower surface.
- f) A maximum of one strut may be attached to the upper surface.



Z117 – Schematic representation of flicks

The following applies for every strut:

- g) It must be design to fit inside a (1) rectangular volume parallel to the z-axis with edge lengths of $l=100 \times w=30 \times h=x$ mm (the h dimension of the volume can be chosen individually).
- h) All surfaces of a strut which are licked by the air stream must run in parallel to the z-axis.
- i) Every section parallel to the Z0 plane must only produce one (1) closed profile.
- j) It must be fully covered in plan view by the flick it supports.
- k) It must either connect

- a. two flicks or
- b. a flick and the front diffuser

All flicks or struts must be immediately and individually removable upon request of the stewards of the meeting and/or the scrutineers. The vehicle must subsequently remain in full compliance with the provisions of the technical regulations.

3.21.8 Advertising space

A plane and flat (tolerance in x-direction ± 10 mm) surface, completely closed and homogenous, with the minimum dimensions 400 mm x 110 mm, must be in place between $z=200/z=400$ mm and $y=200$ for the fitment of advertising signs. If the scaled standard contour does not have any such surfaces, they must be created. The surfaces must be positioned in parallel to plane VA, with a maximum difference of 15° (upper edge = closer to $x=0$).

The surfaces and possible brackets created hereby must be approved by the DMSB.

The surfaces are reserved for the fitment of the series advertising partners.

3.22 Components which face towards the ground on which the car stands

may be visible in bottom view:

- The floor (EB17-082)
- The mounting points of the floor
- The skid block
- The mounting points of the skid block
- The monocoque in the area of the reference points
- The front diffuser (EB17-075) with fins
- The rear diffuser (EB17-078) with fins
- The wheel arches
- Components in the wheel arch clear areas
- Parts of the EB17 rear wing
- The exterior mirrors and the corresponding mirror struts
- The brake air ducts in the wheel arches and/or in the wheel arch clear areas
- The brake lines in the wheel arches and/or in the wheel arch clear areas
- The wheels
- The pneumatic jacks
- Parts of the rear skirt
- Suspension parts in the wheel arches and/or in the wheel arch clear areas
- The engine plate
- Rear wheel arch panels
- Parts of the bargeboard box (between $x=0$ mm and $x=125$ mm)

- Glide pads
- Transponder of the official timekeeping

3.22.1 Front diffuser

The front diffuser is an EB17 component (EB17-075)

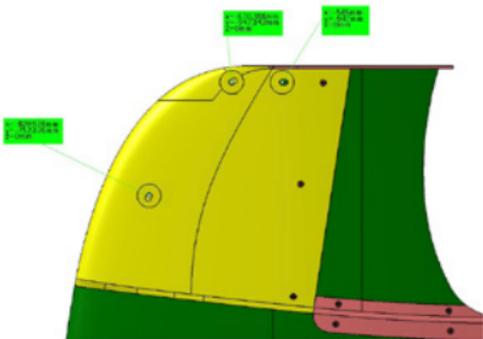
Within a wheel arch clear area it is explicitly permitted to alter the contour of the front diffuser with individual components. The following conditions must be respected:

- all individual components must be located fully inside the wheel arch clear area
- the individual components are removable at any time upon request of the technical delegate
- without the individual components the contour of the front diffuser (EB17-075) remains unchanged

On the bottom surface of the front diffuser, in front of the VA plane, the use of max. 6 cylindrical metallic glide pads is permitted provided that they are located solely at the specified positions (max. one (1) glide pad per position) defined in drawing Z122 and can be removed at any moment upon request of the technical delegates.

Each individual glide pad may have a maximum diameter of 40mm including attachment and may protrude the flat floor ($z=0$) by a maximum of 10mm downwards ($z=-10$).

The central cylinder axis of the glide pads must be z-parallel (± 3 Grad). The metal (also titanium) for the glide pads is free. A glide pads must be attached with one and only one screw (max. M8) passing through the cylinder axis of the glide pad.



Z122 – Sole permitted positions for the fitment of glide pads

3.22.1a Individual fins/strakes

Within the area defined in drawing Z118 (see also DMSB server, "mandatory regulation files", SB17-021) it is explicitly permitted to attach individual L- or T-shaped profiles (fins/strakes). The following conditions must be respected:

- No part of the fins may be below $z=5$ (tolerance in z -3mm).
- One leg of the profile must be arranged z -parallel and be fitted at right angle with reference to plane $z0$.
- The legs of the profile arranged z -parallel must be flat and the planar surface may not be curved around a z -axis
- The distance between two fins (including fastening material) may at no point be less than 30mm (without tolerance)
- The sum of all fins/strakes may not be greater than 20
- The sum of all fin surfaces parallel in z which are licked by the air stream must not exceed 2,000 cm^2 .
- The maximum material thickness is 3 mm.
- The legs of the profile which are not arranged in z -parallel must have a maximum width of 60mm and must be bonded to the contour of the diffuser visible in bottom view.
- The profiles may alternatively be bonded or screwed.
- Edges and corners of the fins/strakes may be provided with a radius R =maximum 2 mm.



Z118: Permitted area („strake box", represented in white) for the individual attachment off ins/strakes

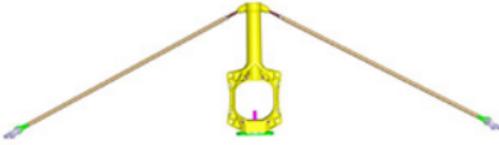
3.22.1b Permitted flexibility of the front diffuser

The following applies for the flexibility of the front diffuser:

The splitter mounted completely to the vehicle must not move by more than 5 mm downwards when a load of 500 N is applied vertically. This load is applied consecutively at three points respectively (right, centre and left) by means of a pad with a maximum surface of 1,500 mm^2 . It is permitted to adapt the pad to the contour. It is permitted to place a rubber with a thickness of 3 mm between the pad and the front diffuser. The exact position of the load application as well as the design of the pads must be coordinated with the technical delegate.

3.22.1c Support device front diffuser

The support device FD is an EB17 component (EB17-079) of which two versions exist (EB17-079.1 and EB17-079.2). It is at the sole discretion of the competitor which of the two versions is homologated and used.



Z119 – Support device FD (EB17-079)

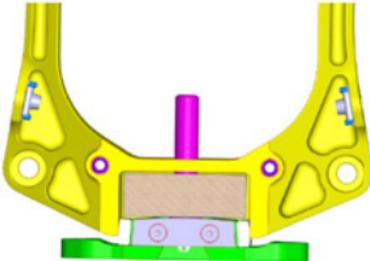
It is explicitly permitted to complement the support device individually with cup springs 28 x 10,2 x 1 according to DIN 2093, provided that they are located solely and fully within the volume defined in drawing Z108 (hatched area) and filed on the DMSB-server under “mandatory regulation files”, SB17-022.

It is explicitly permitted that the support device can move according to the spring deflection of the permitted cup springs (28x10,2x1).

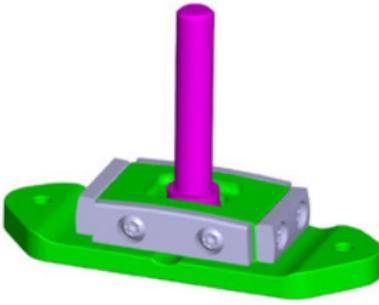
Exception:

The component EB17-079.01.01 or the component EB17-079.02.01 must have no relative motion with regards to the monocoque.

Outside and inside this volume provided for the installation of cup springs no other components whatsoever may be in contact with EB17-079 that in any way could move the front diffuser from its specified position. Provided that these provisions are met it is permitted to attach components to EB17-079.



Z108- Sole permitted area (hatched area) for the installation of cup springs



Z108a- EB17 components which may move in parallel to the spring deflection

3.22.2 Floor

The floor is an EB17 component (EB17-082).

Within a wheel arch clear area it is explicitly permitted to alter the contour of the floor with individual components. The following conditions must be respected:

- all individual components must be located fully inside the wheel arch clear area
- the individual components are removable at any time upon request of the technical delegate
- without the individual components, the contour of the floor (EB17-082) remains unchanged

The openings designed for the passage of the air jacks above $z=0$ (up to the maximum of $z=40$ mm) may be provided with an insert which reduces the openings to a diameter of 65 mm and which is intended to guide the pistons of the air jacks. The maximum permitted diameter for the inserts is 115 mm. The material of the inserts is free.

Only screws may be used for mounting the floor. The maximum permitted dimension for the screws is M6. No part of these screws may be below $z=0$.

The passage holes and the recesses, when mounted, must be closed by means of screw heads and washers where appropriate.

3.22.2a

When the vehicle stands on its wheels no part may be located below EB17-17-082 (tolerance in $z = -3$ mm).

Exceptions:

- Parts of the wheels and suspension
- Parts of the air jacks (when extended)
- Parts of the skid frame (EB17-035D)
- Parts of the skid block (SB17-003)

- Engine shear plate (SB17-006)
- The mandatory performance ballast (EB17-045) and their mountings as defined in the sporting regulations
- Slide pads according to 3.22

3.22.2b

The following applies for the flexibility of the floor:

The floor mounted completely to the vehicle must not move by more than 5 mm downwards or by more than 5 mm upwards when a load of 500 N is applied vertically. This load is applied consecutively at three points respectively by means of a pad with a maximum surface of 1,500 mm². It is permitted to adapt the pad to the contour. It is permitted to place a rubber with a thickness of 3mm between the pad and the floor. The exact position of the force application as well as the design of the pads must be coordinated with the technical delegate.

3.22.3 Rear diffuser

The rear diffuser is an EB17 component (EB17-078)

The following applies for the flexibility of the rear diffuser:

The rear diffuser mounted completely to the vehicle must not move by more than 5 mm downwards or by more than 5 mm upwards when a force of 500 N is applied vertically. This force is applied consecutively at three points (right, centre, left) respectively by means of a pad with a maximum contact surface of 1,500 mm². It is permitted to adapt the pad to the contour. It is permitted to place a rubber with a thickness of 3 mm between the pad and the rear diffuser. The exact position of the force application as well as the design of the pads must be coordinated with the technical delegate.

3.22.4 Skid frame

The skid frame is an EB17 component (EB17-035).

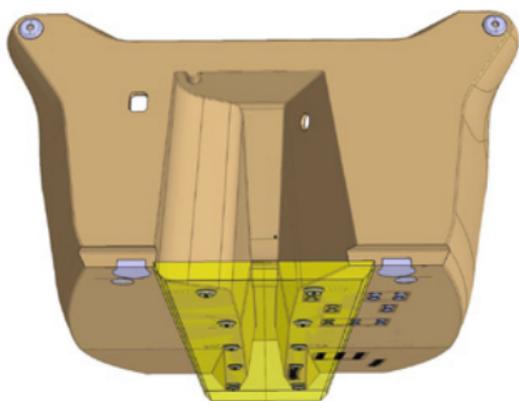
Individual mounting points on the upper side of the skid frame, behind $x=1,500$ and complying with the provisions of Article 15.1.1, are permitted. Only parts of the underbody may be fitted to these points.

On the upper side additional mounting points are located for performance ballast. Solely performance ballast (EB17-045D, EB17-045.1D) may be mounted to these points.

In addition, no further components may be located inside the volume SPR (see DMSB-server, „mandatory regulation files“, EB17-035).

Exceptions:

A maximum of 400 grams of an arbitrary material which sole and unequivocal purpose is to seal the cardan tunnel may be located inside the volume SPR.



Z120 – Volume SPR in which with the exception of the performance ballast and the permitted fixing material no other components may be located.

3.22.4 Skid block/Skid-Pad

The skid block is a SB component (SB17-003) which must at all times during the event comply with the following minimum height (in Z):

Area	Mandatory minimal height
$x = 75$ to $x = 20$ mm	5mm
$x = 75$ to $x = 2410$ mm	6mm
$x = 2410$ to $x = 2530$ mm	5mm

Table 18

The skid block must be provided with a total of 18 through holes with a diameter of 6 mm, located at the following positions (hole centre point):

Hole	Position in x	Position in y
1	180	160
2	180	0
3	180	-160
4	400	160
5	400	0
6	400	-160
7	880	160
8	1020	0
9	880	-160
10	1725	160
11	1630	0
12	1725	-160
13	2205	160
14	2205	0
15	2205	-160
16	2455	160
17	2455	0
18	2455	-160

Table 19

Grey sections: Minimum thickness 6 mm

Blue sections: Minimum thickness 5 mm

For the fixation of the skid block only M6 screws with countersunk heads according to DIN EN 10642 and/or DIN EN 14581 may be used.

In the area of the skid block no attachment material may be located below $z=-32$.

In the area of the skid block no part of the vehicle may be visible from bottom view with the exception of the skid block, the countersunk heads of the attachment screws and the skid pad frame (through the permitted wear holes).

In order to check the skid thickness, a measuring tool with a round contact surface running in parallel on both sides of the skid and having a diameter of 50 mm will be used, measuring the distance between these two surfaces.

The measuring tool will be placed so that the contact surfaces are completely located in an area which is limited by

X	x	y
75	2530	200

and so that during the measurement procedure they are not in contact with $x=200$ or $x=2,410$.

If the skid pad disposes of permitted milling pockets according to the specification sheet, the competitor must provide circular fittings with a diameter of 50mm for the measurement, whose height/thickness corresponds to the shape of the milling pocket. The tolerance for the height of the fittings in relation to the depth of the milling pocket is $+0,2$ mm. The fittings are placed for the duration of the measurement between the supporting surfaces of the measuring tool.

The mandatory minimum dimension is not respected if an incorrect value (non-compliance with the mandatory minimum height) is measured at two or more measuring points having a minimum distance of 50 mm from each other.

It is explicitly permitted to apply 2 individual through holes with a maximum diameter of 20 mm each into the SB component.

3.22.5 Front wheel arch

The area of the front wheel arches is limited by:

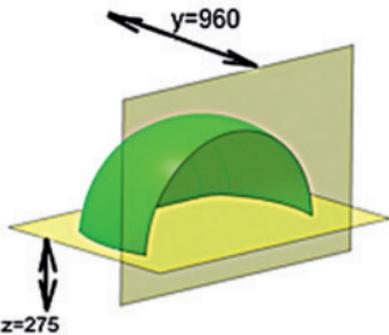
x=	x=	y=	y=	z	z=
-450	-450	400	975	275	Contour of the race car

Table 20

The design of the front wheel arches is free, provided that they are executed in such a way that all physically present surfaces of a wheel arch which are licked by the air stream form together with

- a virtual plane through $y=960$ parallel to plane FL and
- a virtual plane through $z=275$ parallel to plane z0

an (1) air tight volume. The two virtual planes and the explicitly permitted openings (3.22.5a) are considered to be air tight for the purpose of this article.



Z92- Mandatory air tight volume – front wheel arch

3.22.5a Openings front wheel arch

Openings in the wheel arch are permitted for the following applications only:

- Passage of the brake system cooling air duct
- Passage/ clearance of suspension parts
- Passage/ clearance of the wheels in the wheel arch clear area
- Passage/ clearance of the steering
- Passage of the brake pipes
- Passage of the closed air duct to the louvers
- Passage of the brake cooling water pipes
- Passage of electrical lines.

The openings must be restricted to the absolutely necessary dimension. It is at the discretion of the technical delegate to decide whether or not these conditions are respected.

Every point of the wheel arch which can be licked by the air stream must be visible in bottom view.

For the interpretation of these regulations, all parts which are located in the wheel arch clear area and the below listed components are considered to be transparent.

- Tyre and wheel
- Suspension parts
- Brake system including the pipes for the brake fluid and the water cooling
- Brake cooling air duct
- Electrical lines
- Bolting and connections as far as there only apparent purpose is the connection itself.

3.22.6 Front wheel arch clear area

There is a clear area below the front wheel arches which is limited as follows:

x	x	y	y	z	z
450	450	400	375	0	275

Table 21

There are no design specifications within the wheel arch clear area.

Exceptions:

EB17 or SB17 components which protrude into the wheel arch clear areas must not be modified.

No air inlet openings may be located inside the wheel arch clear area.

3.22.7 Rear wheel arch

The area of the rear wheel arches is limited by:

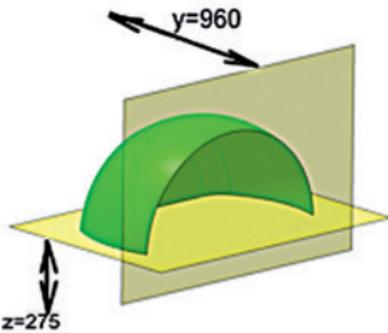
X=	X=	Y=	Y=	Z	Z=
2.300	3.200	580	975	275	Design linie

Table 22

The design of the rear wheel arches is free, provided that they are executed in such a way that all physically present surfaces of a wheel arch which are licked by the air stream form together with

a virtual plane through $y=960$ parallel to plane FL and
a virtual plane through $z=275$ parallel to plane z0

an air tight volume. The two virtual planes and the explicitly permitted openings (3.22.5a) are considered to be air tight for the purpose of this article.



Z93- Mandatory air tight volume – rear wheel arch

3.22.8 Openings rear wheel arch

Openings in the wheel arch are permitted for the following applications solely:

- Passage of the brake system cooling air duct
- Passage/ clearance of suspension parts
- Passage of the brake pipes
- Passage of brake cooling water pipes
- Passage of electrical lines
- Passage wheel arch ventilation (3.22.10)

The openings must be restricted to the absolutely necessary dimension. It is at the discretion of the Technical Delegate to decide whether or not these conditions are respected.

Every point of the wheel arch which can be licked by the air stream must be visible in bottom view.

For the interpretation of these regulations, all parts which are located in the wheel arch clear area, the rear diffuser below the wheel arch and the below listed components are considered to be transparent.

- Tyre and wheel
- Drive shaft
- Suspension parts
- Brake system including components of the water cooling
- Brake cooling air duct
- Electrical lines
- Bolting and connections as far as there only apparent purpose is the connection itself.

Mounting flanges of the wheel arches which are not licked by the air stream may extend up to $y < 580$.

3.22.9 Rear wheel arch clear area

There is a clear area below the rear wheel arches which is limited as follows:

from x=	to x =	from y=	to y=	from z=	to z=
2.300	3.200	580	975	0	275

Table 23

There are no design specifications within the wheel arch clear area.

Exceptions:

EB17 or SB17 components which protrude into the wheel arch clear areas must not be modified.

No air inlet openings may be located inside the wheel arch clear area with the exception of the wheel arch ventilation according to 3.22.12

3.22.10 Rear wheel arch clear area panels

The wheel arch clear area panels are limited by:

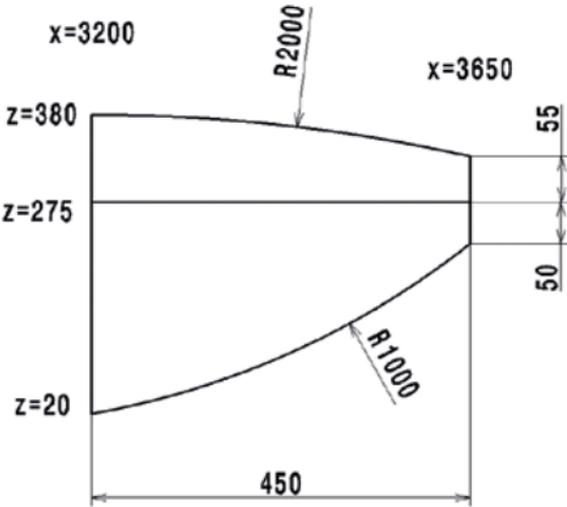
from x=	to x =	from y=	to y=	from z=	to z=
3.200	3.650	580	975	0	275

Table 24

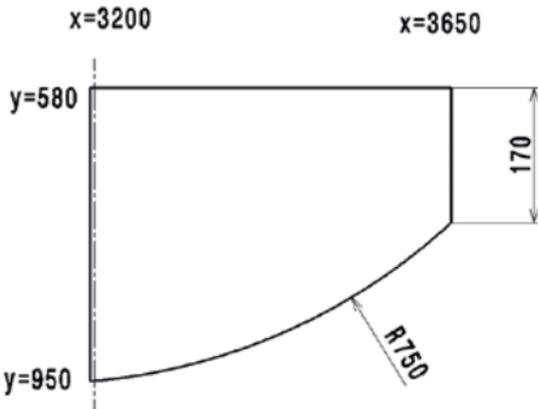
but they must, in plan view, at no point protrude over the maximum contour (see drawing Z 15).

The following is applicable for the design of the wheel arch clear area panels:

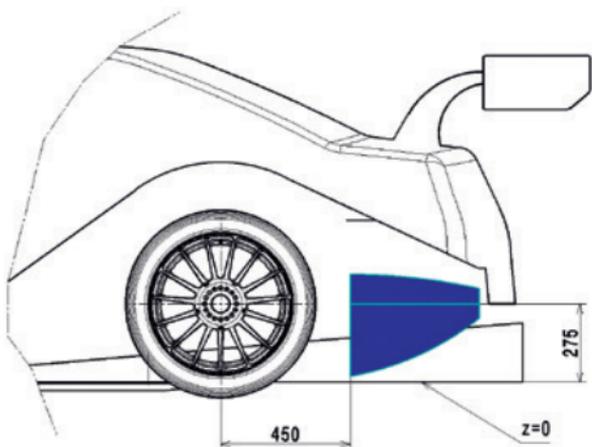
- All the points which may be licked by the air stream must be visible in bottom view.
- The enclosed volume must be big enough to accommodate the volume body defined in the drawings below when its rectangular basic surface is positioned in parallel to plane VA.
- The volume body must not be visible in any view and must not be licked by the air stream.



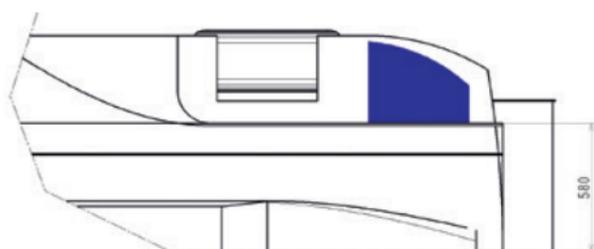
Z52 – Mandatory dimensions and radii rear volume body – side view



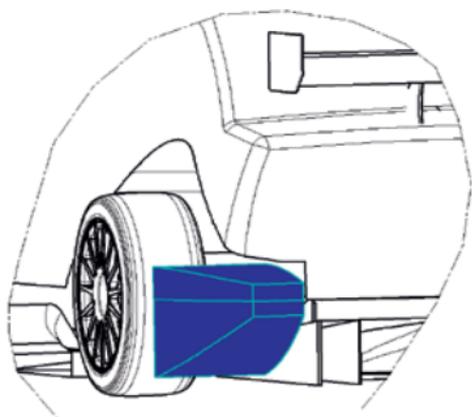
Z53 – Mandatory dimensions and radii rear volume body – plan view



Z54 – Installation position volume body



Z55 – Installation position volume body



Z56 – Installation position volume body

In rear view, no part of the wheels other than the ones located below $z=20$ mm or outside the maximum permitted bodywork width must be visible. If the wheel arch clear area panel is provided with an air duct corresponding to the following definition, wheel parts may also be visible through the air duct in rear view.

3.22.11 Wheel arch ventilation

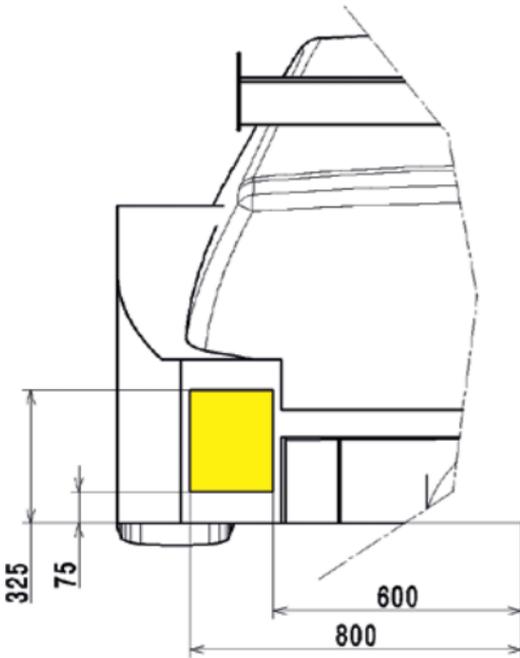
The wheel arch clear area panels (and the volume body) may be penetrated by a closed air duct which combines the wheel arch clear area with the contour and for which the following position and design specifications are applicable:

The air duct must be located in an area which is limited as follows:

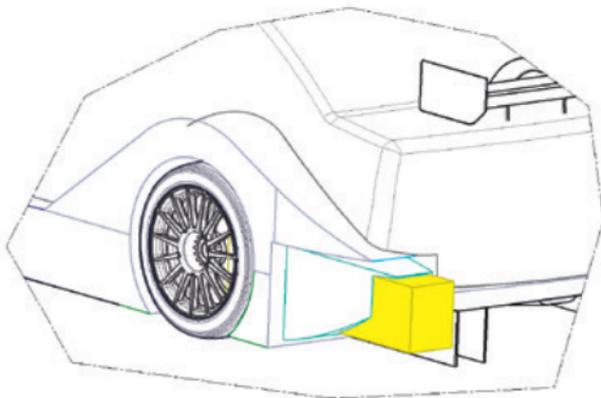
from x=	until x =	from y=	until y=	from z=	until z=
3.000	3.800	600	800	75	375

Table 25

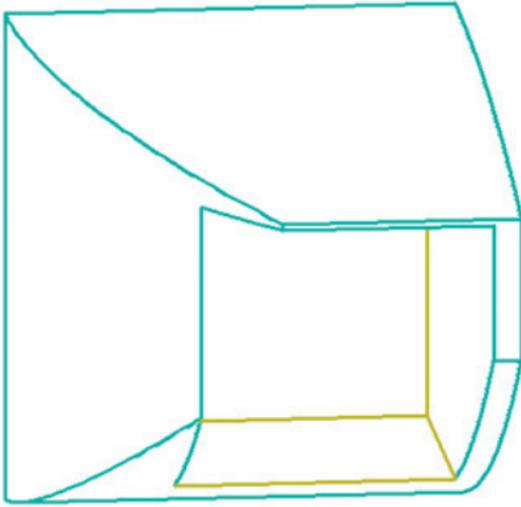
- All the surfaces of the air duct must be x-parallel.
- It is permitted to apply horizontal elements in the air outlet ports of the air duct but they must not extend more than 40 mm in x and 15 mm in z.



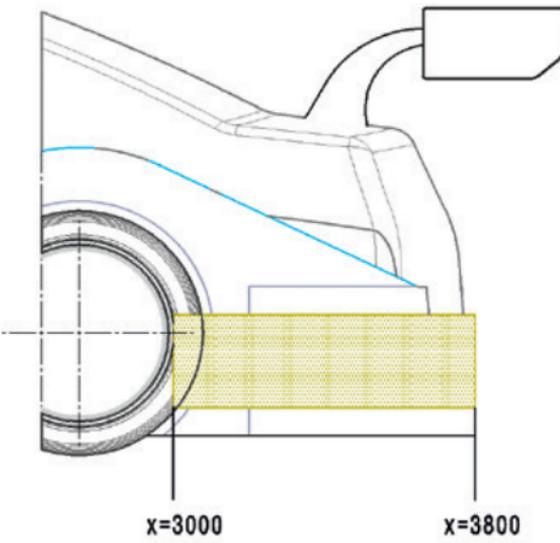
Z57 – Eligible area for rear air duct wheel arch ventilation



Z58 – Eligible penetration of the volume body through the air duct



Z59 – Volume body with eligible trimming for air duct



Z60 – Eligible area air duct, side view

4. WEIGHT

It will be distinguished between three minimum weights

The mandatory minimum weights must be respected at all times during an event.

4.1 Total minimum weight

The total minimum weight is composed of:

- The minimum weight of the car
- The minimum weight of the driver

The total minimum weight is 1.125 kg (tolerance: -2kg).

Based on the 1.125 kg the total minimum weight can vary depending on the amount of the allocated performance ballast (see Sporting Regulations article 26.6).

4.2 Minimum weight of the car

The minimum weight of the car is composed of:

- The actual weight of the vehicle at the time of measurement
- The weight of the inboard cameras assigned by the ITR respectively the weight of the balance weight (see article 18.1) and the dummies (if no in-board camera is appointed) and
- 5 x EB17-045D (performance ballast)

but without

- Driver balance weight
- Driver and his equipment

The minimum weight of the car is 1.041 kg (tolerance: -2 kg).

Based on the 1.041 kg the minimum weight can vary depending on the amount of the allocated performance ballast (see Sporting Regulations article S 26).

For an increase of the vehicle minimum weight of up to 15 kg and for a reduction of the vehicle minimum weight of up to 20 kg the appropriate weight adjustment must be solely realised through the addition or removal of performance weights (EB17-45D) as well as the camera pan according to the provisions from the Sporting Regulations.

Vehicles whose total vehicle minimum weight may be reduced by more than 20 kg in application of the sporting regulations may only remove the weight beyond the 20 kg by removing components which are defined as ballast in the additional homologation of the respective vehicles.

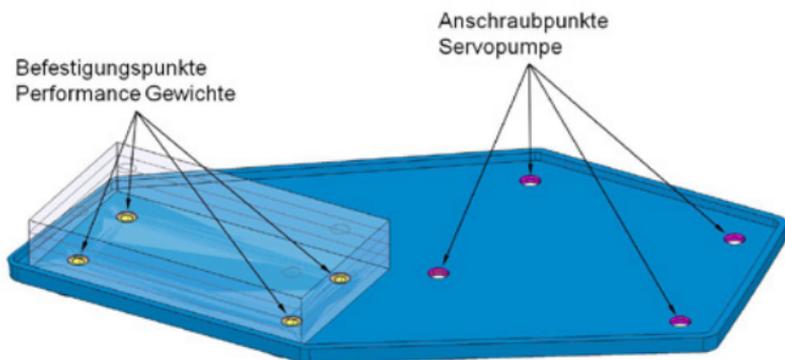
An increase of the minimum weight must be realised in any case solely through the addition of performance weights (EB17-045D).

Performance weights may only be installed on the provided mounting points on the skid pad frame (see drawing Z102 and Z102a) and on provided mounting points in the service box.

Solely the number of performance weights (EB17-045D) resulting from the application of article S 26 of the Sporting Regulations as well as corresponding fixing material may and must be mounted solely on the dedicated attachment points of the skid pad frame (see drawing Z102 and Z102a) and, utilizing the mounting bracket PG (EB17-088D), inside the service box.

No more than 4 performance weights (max. 10 kg) may be installed on EB17-088D at any time.

The fixing material for performance weights may weight combined no more than 400 grams.



Z121 Mandatory points for the installation of performance weights inside the service box

4.2a

The relevant total minimum weight and the minimum weight of the car must also be respected when the water container or containers provided for the cooling of the brakes is/are empty and the fuel system does not contain any fuel.

It is at the discretion of the technical delegate whether the driver balance weight must be dismantled for the determination of the actual weight of the car or if the weight is deducted by way of calculation.

4.3 Minimum weight of the driver

The relevant minimum weight of the driver is composed of:

- The driver
- The driver's personal equipment as carried on board at the moment the car was selected for weighing.
- Driver balance weight, if applicable.

The minimum weight of the driver must be 84 kg (tolerance: -2kg)

4.3.1 Driver balance weight

If the actual weight of the driver (including the parts of his personal equipment which were present in the car the last time the car was on the track before or during the car was selected for weighting) is below 84 kg, the weight difference (with regard to 84 kg) must be added in form of ballast to be exclusively fixed at the mounting points of the lap and crotch safety straps.

Components of the homologated safety belts cannot be declared as driver balance weight.

It is the responsibility of the competitor to ensure that the total of the installed driver balance weight and his actual weight (plus the items of his personal equipment as

carried on board at the moment the car was selected for weighting) complies with the minimum weight of 84 kg.

4.4 Separate weighting

If the total minimum weight is checked with the driver outside the car, the driver including the parts of his personal equipment which are located inside the vehicle at the moment the car was selected for weighting and the car are weighted separately from each other. The tolerance on each of the so determined individual weights is 2 kg.

To determine the total weight however both of the individual weights are added without any tolerances. A tolerance of 2 kg is granted to the result of this summation.

The technical delegate and/or the scrutineers can decide to weight the race car and the driver separately from each other.

The process of weighting is described in the sporting regulations.

4.5 Weight during qualifying and race:

During qualifying, the weight of the race car may only be increased, changed through:

- Refuelling (without the use of the quick refuel valve)
- Replenishment of cooling water for the brake system
- Change from slick to rain tyres or vice-versa,

During the race, the weight of the race car may only be increased, changed through:

- Change from slick to rain tyres or vice-versa,
- Refuelling (without the use of the quick refuel valve)

No weight may be added to the vehicle, to the driver and/or to his personal equipment on the way from the track to the parc fermé or in the parc fermé in any form.

4.6 Ballast

It is permitted to use ballast. The ballast must not change its position in relation to the monocoque whilst the car is in motion.

No ballast may be positioned on or inside the front, rear or lateral crash structures as well as the associated adapters (EB components 006, 007, 037 and 038).

5. MOTOR UND ABGASANLAGE

The parts listed in the following table are EB components relevant for this Article.

Part specification	Component number
E-Gas control motor	EB17-049D

Table 26

The parts listed in the following table are SB components relevant for this Article.

Part specification	Component number
Engine bracket	SB17-008

Table 27

An 8 cylinder internal combustion engine in V-arrangement homologated by the DMSB must be used.

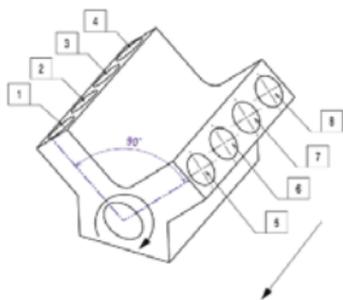
Marke	Eligible homologations number
Audi	DTM-19/2017
BMW	DTM-20/2017
Mercedes	DTM-21/2017

Table 28

Unless otherwise indicated, a maximum tolerance of -1 % is permitted for all dimensions and weights in this Article 5.

5.1 Engine type and position

- Only one engine in the car is permitted.
- The only permitted engines are four-stroke Otto engines.
- Hybrid engine systems are prohibited.
- The compulsory number of cylinders is 8.
- The maximum cubic capacity is 4,000 cm³.
- The rotation axis of the crankshaft must run
in parallel to plane FL (parallelism tolerance = 1.5 mm),
in parallel to plane z0 (parallelism tolerance = 1.5 mm),
- The numbering of the cylinders is compulsory defined through drawing Z61 -below.



Z61 – Cylinder numbering and crankshaft rotation direction

Furthermore, the engine must be installed so that the crankshaft centre is positioned at

x	z	y
195 ¹	90 ²	0 ³

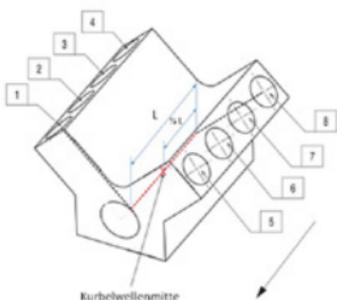
Table 29

¹ Tolerance = ± 5 mm

² Tolerance = ± 1.5 mm

³ Tolerance = ± 3 mm

The x-position of the crankshaft centre must be marked on the engine block by means of a clear and accessible identification.



Z62 – Position of crankshaft centre

5.1.1

Under load when the engine is driving the vehicle the maximum permitted RPM of the crank shaft is 8,500 rpm (revolutions per minute).

5.2 Installation Position auxiliary systems

With the exception of parts of the engine electric and parts of the mixture control, no part of the engine and no part of the auxiliary and accessory systems may be located behind x=540.

Exceptions to 5.2:

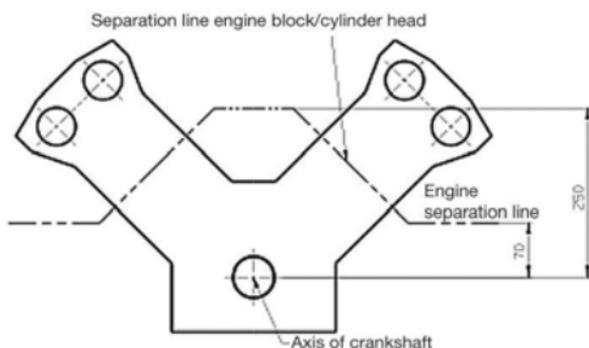
- The servo pump
- The compressor of the paddle shift system

5.3 Connection engine block and cylinder heads

It must be possible to separate engine block and cylinder heads by releasing the screw connections. The separation line must be the upper side of the cylinder block.

5.4 Engine weight

The minimum weight of the engine in running condition is 148 kg. The minimum weight of the engine parts which are completely located above the separation line is 60 kg. For the purpose of this provision, engine parts which are taken into consideration for the verification of the engine weight (see following list) and which are penetrated by the separation line, are considered to be located below the separation line. The characteristics of the separation line result from drawing Z63.



Z63 – Engine separation line characteristics

The following parts are taken into consideration for the determination of the engine weight:

- All the parts which can only be removed after one or several DMSB seals are removed or destroyed.
- All parts of the oil pumps
- All parts of the water pumps
- All the components between air restrictors and cylinder head channelling combustion air.
- The air restrictors
- The engine wiring loom up to the standard wiring loom (EB 032)
- All the parts of the fuel mixture control fitted to the engine
- Pipe installations for cooling agents and lubricants up to their first separation line
- All screws/ studs and nuts which are necessary to mount the engine to SB components and the EB component 049.
- All ignition coils used when the engine is running
- 8 spark plugs

- All the sensors eligible in compliance with Article 8.12 which control the engine operation and which are directly fixed to the engine.
- Required ballast weight, if necessary, which may not be EB17-, SB and/or LB17-components.
- E-gas actuator (EB17-049) and the support for the E-gas actuator (maximum 500 grams)

The following parts are not taken into consideration for the determination of the engine weight:

- Liquids
- Oil tanks
- Coolant containers
- Exhaust manifold.

5.5 Engine block

The only permitted engines are V-8 engines. The only permitted material for the engine block are aluminium alloys. The straight-lined cylinder distances of cylinders 1 to 4 must have identical dimensions (maximum permitted difference 5 mm) and be minimum 102 mm. The same applies for the cylinder distances of cylinders 5 to 8. The cylinder bores of a cylinder bank must be in one (1) plane. The two planes so defined must form a cylinder-bank angle of 90°. The bore must be cylindrical and must have a minimum diameter of 93 mm.

5.6 Crankshaft drive

5.6.1

The crankshaft must be made out of steel and comply with the following minimum dimensions:

- Crankshaft bearing pin diameter 63 mm
- Connecting rod bearing pin diameter 47 mm

The crankshaft and connecting rod bearings must be friction-bearings with the following minimum dimensions:

- Main bearing width 20 mm
- Connecting-rod bearing width 18 mm

A central power take-off into the drive train is not permitted.

5.6.2

The connecting rods and the connecting rod bolts must be made out of steel. Each connecting rod including all mounting parts for the connecting-rod bearing cap (e.g. connecting-rod screws) and the sleeve for the piston pin must have a minimum weight of 450 gr.

5.6.3

Each piston including the piston pin, the piston ring and all mounting parts must have a minimum weight of 350 gr. The piston pins must be made out of steel and have a minimum diameter of 19 mm. The minimum height of the piston rings used is 1.1 mm.

5.7 Cylinder head

5.7.1

The only permitted material for the cylinder head are aluminium alloys.

5.7.2

The maximum number of valves per cylinder is 4. The valve actuation must be effected by means of bucket tappets and coil springs. Any device or measure allowing for variable engine timing and/or variable valve lift is prohibited.

The camshaft drive from the cylinder block to the cylinder head must be a chain drive or a toothed-belt drive. It must be located on the engine opposite of the output end of the crankshaft. A central power take-off for the camshaft drive is prohibited.

5.7.3

The valves must be made out of steel or titanium. The minimum valve-stem diameter is 6 mm which must be retained over at least 50% of the total valve length.

The valves must not be hollow.

5.8 Induction system

5.8.1

Any device or system capable of producing a variable cross section in the induction system, other than the throttle(s) or the throttle slides, is forbidden.

5.8.2

The throttle valve/slides must be actuated through the E-Gas actuator (EB17-049D) only.

Any additional electrical, hydraulic and pneumatic systems influencing the mixture amount supplied to the engine is strictly forbidden.

Exceptions to 5.8.2:

- Injection valves
- Fuel pumps
- Engine control unit (EB17-022).

The number of accelerator pedal (EB17-020) per car is limited to one. The accelerator pedal must not have any device which is capable of modifying the pedal position or the signal of the accelerator-pedal travel sensor other than through the movement of the driver's foot.

It is permitted to remove the DMSB seal of the E-gas actuator and to apply an additional support to the cable socket inside the component, when in the presence of the technical delegate or his representative.

5.8.3

Any device or system that is capable of varying the length in the induction tract is forbidden.

5.8.4

Any device or system, other than air heat exchangers, for the cooling of the fuel air mixture, the induction air or the fuel is forbidden. Any movable device or system which is capable of influencing the air volume supplied to the air heat exchangers whilst the car is in motion is forbidden.

5.8.5

Supercharging is forbidden.

5.8.6

A pressure accumulator in the induction system is forbidden.

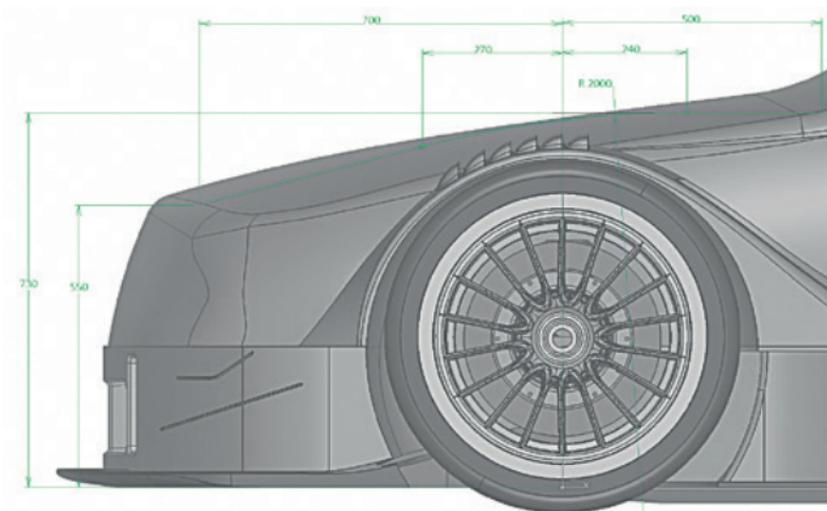
5.8.7

The induction system must be fitted with two air-restrictors. Each air-restrictor must have a maximum diameter of 29 mm, maintained for a minimum distance of 3 mm. All the air feeding the engine must pass through these air restrictors, which must be made out of metal or a metal alloy. The complete induction system must form one or two closed volume(s) and be hermetically sealed from the intake opening of the air restrictors. In the complete induction system (in direction of the intake) in front of the intake valves, there must be no kind of openings or connections to other volumes outside the air box(es) or to the ambient air, with the exception of the openings for the air restrictors and the fuel feed (injection nozzles). Any device or measure capable of leading induction air past the air restrictors to the engine is prohibited, whether the system is actually used or not.

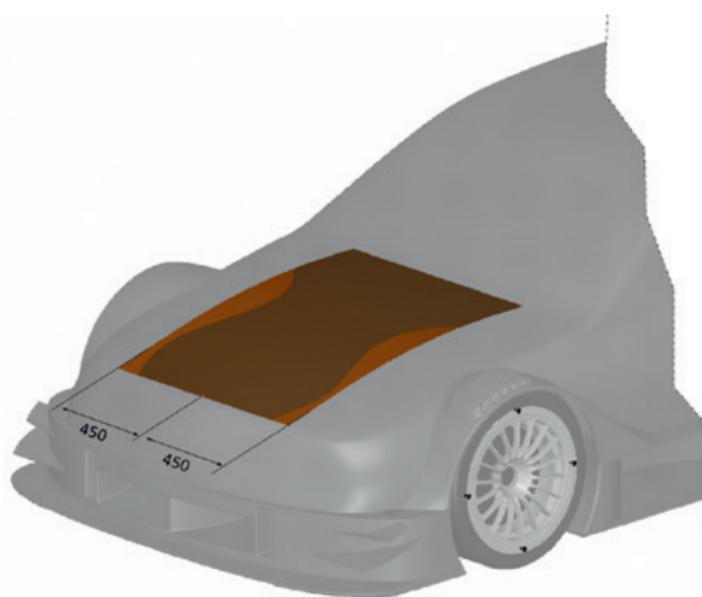
5.8.8 Air box

The maximum of 2 air boxes in the induction system is permitted. The material of the air boxes is free, provided that the prescriptions of Article 5.19 are respected and provided that it is not permeable to air. The maximum permitted inner volume of the induction system from the air-restrictors to the cylinder head is 70,000 cm³.

All parts of the air box must be located below the virtual surface ABF 1 represented in drawing Z98 and Z98a. Under no circumstance may parts of the air box be located outside the contour of the race car. Even if the surface ABF 1 is located partially or in its entirety outside the contour of the race car.



Z98 – Position and curvature of the surface ABF 1



Z98a – Position and curvature of the surface ABF 1

5.8.9

The vacuum pump used for checking purposes must have a maximum nominal capacity of 35 litres per minute and be capable of maintaining a vacuum of 0.734 bar to 0.867 bar with zero airflow.

5.9 Exhaust system

5.9.1

The complete exhaust system must be made from steel or a nickel alloy. The minimum wall thickness of the used pipe material is 0.75 mm. If the pipe is

bent and if the resulting radius of the neutral axis is less than 200 mm, the actual wall thickness in the area of the radius may be below the mandatory minimum thickness (0.75 mm), provided the reduced wall thickness results exclusively from the material deformation during the bending process and/or the extension of the pipe ends on a maximum length of 50 mm.

It is permitted to cover the exhaust pipe with heat-protection materials but the heat-protection material must never be considered for the determination of the wall thickness.

All the parts after the cylinder head which are licked by the exhaust gas stream must, at latest 100 mm behind the corresponding cylinder head flange (in positive x-direction, starting from the corresponding piston centre point), have a circular cross-section (shape tolerance = 2 mm).

Exceptions to 5.9.1:

- It is not required for the honeycomb structure within the catalytic converter to have a circular cross-section.
- It is not required for supports of the exhaust system to be circular.
- A circular cross-section is not required in the direct area of pipe connections (+/- 200 mm).
- Connections for sensor system.
- The screen in the exhaust silencer.

All the components and their supports containing exhaust gases must be located between $x=650$ mm and $x=1,450$ mm and above $z=275$ mm.

5.9.1a Exhaust outlet

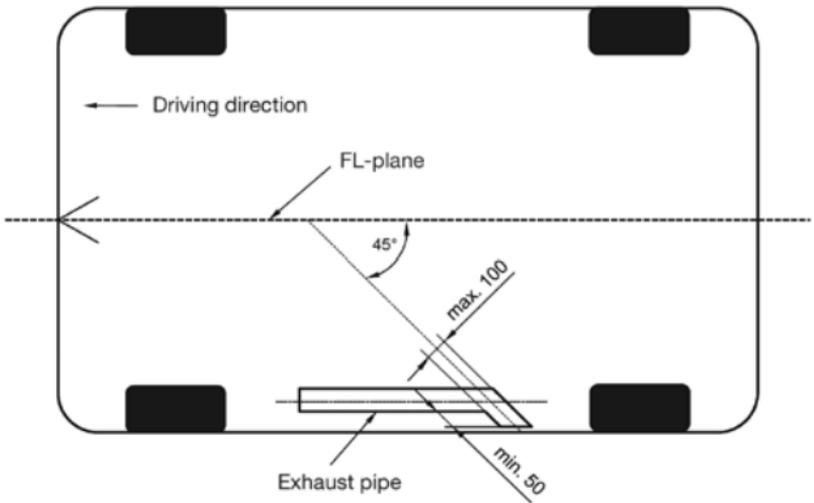
All the exhaust gases must exit mirror identical at each side of the car in an area which is limited as

x=	x=	z=	z=
1.700	1.950	150	450

Table 30

For this purpose, the exhaust gases of a cylinder bank must, up to the exhaust outlet port, be completely conducted through a pipe (exhaust tail pipe) which

- has a maximum diameter of 100 mm,
- runs in parallel to plane z0 and at an angle of 45 degrees ((± 5 degrees) to plane FL, over a distance of at least 50 mm (with reference to the pipe centre axis/neutral axis and starting at the outlet port),
- has no modification of the cross-section at any point of the aforementioned 50 mm (inside and/or outside).



Z64 – Position of the exhaust outlet opening

If the outlet opening is completely situated above $z=275$ mm, no part of the outlet opening must be situated within the scaled contour and no part of the outlet opening must be situated at a distance of more than 25 mm (+5 mm) from the scaled contour.

If any point of the outlet opening is situated at $z=275$ mm or below, no part of the outlet openings must be situated within $y=950$ mm.

After the passage through the outlet openings, the exhaust gas must flow diffusely.

The exhaust gases of a cylinder bank may not cross the plane $Y=0$.

5.9.2

Any device or system allowing for a variable length or a variable cross-section in the exhaust system is forbidden.

5.9.3

No part of the exhaust system must protrude beyond the vertical projection of the car in plan view.

5.9.4

The car must on both sides be fitted with a DMSB or FIA approved exhaust emission control system. All the exhaust gases of a cylinder bank must pass through an exhaust emission control system.

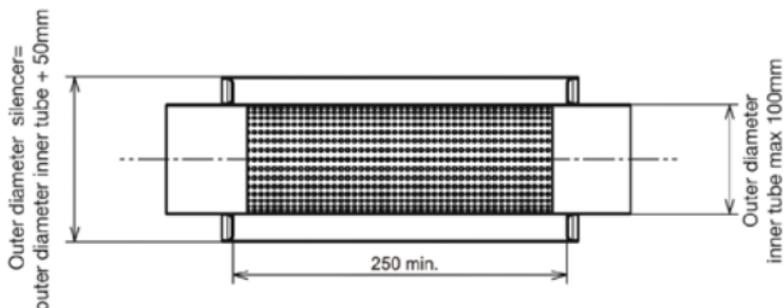
5.9.5

The car must on either side be fitted with a silencer which must be composed of a silencer pot and a screen. All the exhaust gases of a cylinder bank must pass through a silencer.

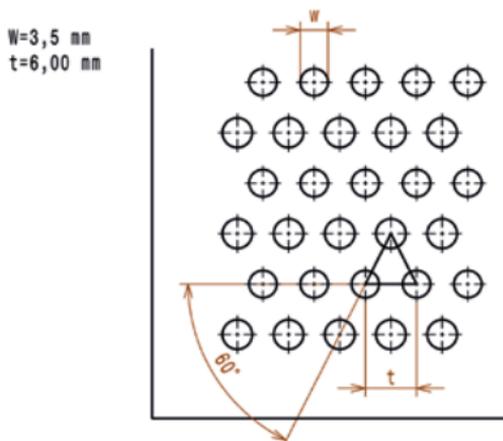
The mandatory minimum dimensions of the pot as well as the design prescriptions

for the screen inside the pot are specified in drawings Z65 and Z65a below.

It is permitted to fill the space between the pot and the screen with insulating material on condition that noise reduction is the only purpose of this procedure. It is at the discretion of the technical delegate to decide whether this point is respected or nor.



Z65 – Minimum dimensions of the silencer pot



Z65a – Arrangement and dimension of the screen bore

The holes of the screen must extend to a distance of at least 220 mm over the complete circumference of the tube.

5.10 Fuel mixture control

Fuel mixture control is free. No more than one injection nozzle per cylinder is permitted. This injection nozzle must be arranged so that it is located in front of the inlet valve when the inlet valve is closed and seen in direction of the induction. Any fuel injection (direct injection) into the combustion chamber is prohibited. There must be no connection between the injection nozzle and the combustion chamber when the inlet valve is closed.

5.11 Ignition

The ignition is free, provided that the prescriptions of Article 8 are respected. No more than one spark plug per cylinder is permitted.

5.12 Engine cooling

The cooling of the engine is free, provided that the below prescriptions are respected:

5.12.1

Coolant pumps must be directly attached to the engine and be driven purely mechanically by the engine.

5.12.2

Coolers for engine coolant must be mounted in front of plane VA and the only permitted cooling core to be used for heat exchange is the one defined as SB component (SB17-007).

The cooling core dimensions are part of the homologation. A new homologation of the cooling core dimensions is permitted once per season. This new homologation of the cooling core replaces the former homologation which is cancelled.

All thermal substances other than ambient air, water, oil, corrosion preventive and antifreeze are forbidden.

5.12.3

Radiators and containers for coolants are considered to be independent components which must not form a part of the engine.

5.12.4

Coolant thermostats are permitted.

5.12.5

Furthermore, all movable devices or systems capable of varying the air volume supplied to the radiators whilst the car is in motion are forbidden.

5.12.6

A pressure accumulator in the cooling system with the sole purpose of serving as expansion chamber for the coolant is permitted. The expansion chamber must not be fitted inside the cockpit, inside the fuel compartment and/or inside the fuel box.

5.13 Engine lubrication

Lubrication of the engine is free, provided that the below prescriptions are respected:

5.13.1

Engine oil pumps must be directly fitted to the engine and be driven by the engine purely mechanically.

5.13.2

Coolers for the engine oil must be mounted in longitudinal direction of the vehicle and in front of plane VA.

5.13.3

Coolers and containers for engine oil are considered to be independent components which must not form a part of the engine. No oil tank may be located in the cockpit. No part of the vehicle containing lubricating oil must be situated at a distance of more than 600 mm from plane Y0.

5.13.4

The oil sump breather must be designed in such a way that it vents into an oil catch-tank with a fluid-level control device and with a capacity of at least 3 litres.

5.13.5

All movable devices or systems capable of influencing the air volume supplied to the oil coolers whilst the car is in motion are forbidden.

5.13.6

Pressure accumulators in the lubrication system are forbidden.

5.14 Seals - Rings

The following components must have non-removable devices (clearance hole \emptyset max. 8.5 mm in one blind hole with M6*, M7* or M8* thread in the other component), which allows for the sealing of the components (tightening in of the seal screw and fitting of the cover device) with each other:

- Valve and cylinder heads
- Cylinder heads and engine block
- Engine block and oil sump
- Camshaft drive cover and engine block
- Camshaft drive cover and cylinder heads.

It is the competitor's responsibility to ensure that the above mentioned components can be secured with the seals specified by the technical delegate so that it is not possible to separate the sealed components without destroying these seals.

* The thread specification does not apply for components of engines which were "frozen" before the 1st of March 2011.

Numbers of locations of the seals must be co-ordinated with the technical delegate in due time so that possible modifications may be made before the date of the homologation of the engine.

There must be no unsealed opening on the engines (with the exception of the oil drain plug with a maximum diameter of 30 mm as well as intake and exhaust ducts and spark plug hole) which allows for the replacement or for a modification of components which are located inside the engine block (for the interpretation of this rule, crankshaft bearing blocks are considered to be inside the engine block) or inside the cylinder head (for the interpretation of this rule, camshaft bearing blocks are considered to be inside the cylinder head).

5.15 Mounting

Rigid connections between engine and vehicle are only permitted on SB components.

Exceptions:

The rigid connection to the propshaft (EB17-010/011/012) is permitted.

Rigid connections to the below specified mounting points of the monocoque are permitted.

	x	y	z
Mounting point 1	515	+ 353	30,5
Mounting point 2	515	-353	30,5

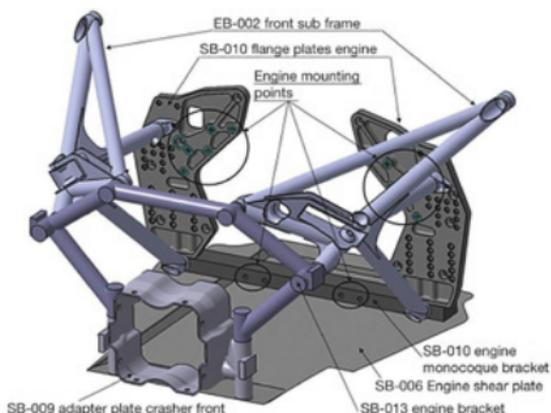
Table 31

The following conditions must furthermore be respected for the engine bracket (SB17-008):

- Minimum weight = 2.0 kg (in compliance with Art. 15.7)
- One-piece or two-piece design permitted
- Must be made out of steel and/or aluminium
- It must be rigidly connected to the shear panel (SB 006)
- It is not part of the engine/ engine weight
- The maximum of 4 rigid connection points to the engine is permitted.
- With the exception of the two points on the monocoque (see table 31), the four points according to recital f), the attachment to the engine sub frame (EB17-002/EB17-002D) as well as the attachment to the flange plate (SB17-010) and the attachment to the shear plate (SB17-006) it must have no additional fixations and be completely located in an area which is limited by the following maximum dimensions (table 32):

x	x	y	z	z
420	540	400	-10	60

Table 32



Z66 – Position of engine attachment points

5.16 Direction of rotation

The engine must turn clock-wise (looking from cylinder 1 in direction cylinder 4).

5.17 Engine inspection

Between the 30th of April 2017 and the 18th of October 2017, it is permitted under certain circumstances to open/break the engine seals attached by the technical delegate or his authorised representative for the purpose of an engine inspection. The number of permitted engine inspections results from the table 33 below. With the opening/breaking of the first seals the number of permitted engine inspections is reduced by one.

The following conditions must be met before opening the first engine seal:

- a) The technical delegate must approve the written request to perform an engine inspection and to open the seals in writing.

The following conditions must be met during and after opening the first engine seal:

- b) All work on components which can only be performed after opening one and/or multiple seals must be completed within the maximum of 12 successive hours, in the presence of the technical delegate or his authorised representative.
- c) After expiration of the 12 hours the engine must be in a state that allows the attachment of the previously removed and mandatory seals and handed over to the technical delegate. Any work on components which can only be performed after opening one and/or multiple seals are subsequently prohibited.
- d) The engine is immediately sealed after the hand over by the technical delegate or his authorised representative.

In case of infringement to 5.17 a), b) or c) the concerned engine may no longer be used for any DTM event in the 2017 season.

Between the opening of the first seal and the timely handover to the technical delegate of the engine prepared for sealing only the following tasks are permitted:

- 1.) Replacement of all bolts and gaskets; (piston rings are explicitly not considered to be gaskets)
- 2.) Replacement of all slide bearing shells of the crank drive,
- 3.) Check of the camshaft drive (drive chains, chain guides, etc.),
- 4.) Machining of the cylinder heads by the maximum of 0.2 mm,
- 5.) Check and adjustment of the valve clearance through the use/change of the shims which are homologated for this purpose in the engine homologation.

All parts must be replaced by identical parts (not applicable for valve shims). The manufacturer must provide evidence for this if requested by the technical delegate.

Number of registered cars of a make	Maximum permitted number of engine inspections for engines of the corresponding make	Maximum permitted number of valve clearance checks for engines of the corresponding make
6	8	3
7	9	4
8	10	5

Table 33

5.18 Valve clearance check

Between the 30th of April 2017 and the 18th of October 2017, it is, under certain conditions, permitted to open/destroy the seals of the valve cover (valve cover seals) which were fitted by the Technical Delegate or his representative for the purpose of checking and if necessary adjusting the valve clearance. The number of permitted valve clearance checks is defined in the table 33 above. With the opening/destruction of the first valve seal the permitted number of valve clearance checks is reduced by one.

The following conditions have to be met before opening the first valve cover seal:

- a) The Technical Delegate must approve the written request for conducting a valve clearance check and for opening the seals in writing.

The following conditions have to be met during and after opening the first valve cover seal:

- b) All work on components which can only be performed by opening one or more valve cover seals have to be performed on one work day in the time between 8:00 and 18:00 in the presence of the Technical Delegate or his representative.
- c) The cylinder head screws may not be opened.
- d) After expiration of the ten hours at the latest the engine must be handed over to the Technical Delegate and must be in a state so that the previously removed and mandatory seals can be attached again. All work on components which can only be performed by opening one or more seals is prohibited after that.
- e) The mechanical processing/machining of any engine components is prohibited.
- f) After handing over the engine it will be immediately sealed again by the Technical Delegate or his representatives.

In case of a violation against the provisions defined in 5.18 a), b), c), d) e) and f) and/or by exceeding the permitted number of valve clearance checks defined in table 33 the affected engine may not be used again during DTM events in the season 2017.

5.18.1 Between the opening of the first valve cover seal and the timely handover of the engine to the Technical Delegate for resealing only the following parts may be changed:

- 1) All shims necessary for adjusting the valve clearance.
- 2) All gaskets and fasteners provided that they are identical.

5.19 Material and weight specifications for engine and exhaust system components

These material specifications are applicable for the complete component, unless otherwise indicated. If several materials are permitted, the corresponding component must nevertheless be made out of one single material only. If not otherwise indicated, beryllium, ceramic materials, titan, sintered materials, beryllium and boron alloyed aluminium (BORALYN) are prohibited, even if the material specification states “free”.

	Materialvorschrift	Mindestgewicht
Airbox	Free, including CFRP	
Exhaust	Steel or nickel alloy	
Crankshaft balance weights	Free, including sintered materials	
Friction bearing shells	Free, including beryllium	
Plug shaft	Free, including CFRP	
Pistons	Aluminium	350 grams each, including piston bolt, piston rings and all mounting points
Piston bolts	Steel	
Crankshaft	Steel	
Engine block	Aluminium	
Oil pump	Steel or aluminium	
Piston rod	Steel	At least 450 grams each, including all mounting points for the piston rod cover and the sleeve for the piston pin
Piston rod bolts	Steel	
Bucket tappets	Free, including beryllium	
Vales	Steel or titanium	
Valve seat rings	Free, including copper, beryllium and sintered materials	
Valve guide	Free, including beryllium	
Cylinder head	Aluminium alloy	

6. FUEL SYSTEMS

The parts specified in the below table are standard components:

Part specification	Component number
Fuel cell	EB17-018
Fuel pumps	EB17-018
Quick refuel valve	EB17-043

Table 34

¹ The quick refuel valve (EB17-043) may only be installed if its use is expressly permitted in the sporting regulations.

The following requirements must be respected for the design of the fuel system:

Only the fuel cell (EB17-018), the catch tank, the fuel pumps and lines, the air/heat exchanger according to Article 6.6 as well as part of the fuel injection system may contain fuel.

The maximum interior diameter of fuel containing lines is 11 mm.

Exceptions to the interior diameter:

1.) The feed line from the filling valve of the quick refuel valve (EB17-043) to the rubber bladder.

The fuel cell (EB17-018) must be used together with the foam baffling (identical in design, structure, material, weight and volume) with which it is homologated by the FIA.

It is permitted to connect the individual foam elements by means of cable ties and to secure them against shifting.

The fuel cell (EB17-018) must be marked with the name of the manufacturer of the fuel cell, the technical specifications and the date of manufacture of the bladder.

No fuel cell must be used more than 5 years after the date of manufacture marked on the fuel cell. An extension is only possible after an inspection by the manufacturer for a period of another 2 years. The competitor must submit a corresponding application together with an inspection certification to the DMSB.

The maximum permitted pressure in the fuel system is 12 bar.

The fuel pressure between the fuel cell and the injection valves may only be influenced by the two EB17 fuel pump and a pressure valve.

6.1 Volume of all fuel containing components

The inner volume of all fuel containing components must not be more than 125 dm³ in total.

The inner volume of all fuel containing components which are situated outside the monocoque must not be more than 4 dm³ in total.

For the interpretation of this volume limitation, the connecting pipes between the fuel cell and the quick refuel valve unit (EB17-018) are not considered to be fuel containing components.

6.2 Fuel lines

All fuel containing lines must be made out of metal or, in the case of flexible lines, must have an outer abrasion and flame resistant (flame-retarding) braid as well as threaded connections. All fuel containing lines must have a minimum burst pressure of 70 bars at the maximum operating temperature of 135° C.

All fuel containing lines must be fitted in such a way that any leakage cannot result in fuel accumulating inside the cockpit.

Fuel containing lines which are guided from the monocoque front wall to the engine (in both directions) must have FIA homologated cut-off valves.

All vent lines must be fitted with a gravity-activated roll-over valve cutting off these lines in the case of the car rolling. Tank ventilation lines must end outside the contour.

6.3 Defuel valve and quick connectors

Each car must be fitted with an FIA homologated dry break coupling (FIA Technical List No. 5) to be placed immediately in front of the rail of the injection nozzles allowing for the removal of fuel from the fuel system.

6.4 Quick refuel system (THIS ARTICLE DOES NOT APPLY FOR 2017)

If a quick refuel valve unit (EB17-043) is used, it must be completely located behind x=1,700 mm.

To install the unit, it is permitted to modify the outside contour of the car. The only purpose of the modification must be to install the valve unit. The valve unit must be designed so that the centre points of the two valves have the same y-coordinate with a tolerance of ±10 mm. The valves must furthermore be installed so that they do not protrude beyond the bodywork. The modification of the outside contour for the installation of the clutch unit must be completely located on the right side of the car above z=750 mm (tolerance -10 mm). The fuel containing lines between the quick refuel clutch unit and the fuel cell must be designed flexibly over a distance of at least 80 mm from the fuel cell and in the flexible area be protected by an outer abrasion and flame resistant (flame-retarding) braid.

Rigid parts of the fuel containing lines between the quick refuel clutch unit and the

fuel cell must be made out of metal.

Both line variants must have a minimum burst pressure of 70 bar at a temperature of 35° Celsius.

The provisions of Article 6.4 are equally applicable for a quick refuel clutch unit (EB17-043) if fitted to the left side of the car.

6.5 Pump switching

The fuel pumps must be switched so that they remain in operation for a duration of max. 30 seconds outside the starting procedure and/or when the engine is not running even when the ignition is not switched off.

6.6 Cooling

Any fuel in the vehicle must be cooled with ambient air only. Heat exchangers are permitted for this purpose. All movable devices or systems capable of influencing the air volume supplied to the fuel coolers whilst the car is in motion are forbidden.

6.7 Pressure accumulators

Pressure accumulators in the fuel system are permitted outside the fuel compartment provided that only the fuel is pressurised.

7. OIL AND COOLANT SYSTEMS

The components listed in the table below are standard or specification components.

Part specification	Component number
Radiator net	SB17-007

Table 35

Only the specified cooling cores (SB17-007) may be used in radiators for the heat exchange between engine coolant (water) and air. The used length and width of the SB17 component are free.

Exception:

The heat exchangers submitted to the DMSB together with the engine homologation 2009 (engine coolant/engine oil) may be further used.

All substances for heat transfer/coolant other than ambient air, water, oil, corrosion preventive and antifreeze are forbidden.

7.1 Lubrication and coolant pumps

Engine oil pumps must be directly fitted to the engine and be driven by the engine purely mechanically.

Coolant pumps must be directly fitted to the engine and be driven by the engine purely mechanically.

7.2 Air ducts for cooling inside the race car

See Article 3.1.2.

7.3 Radiator installation specification

No part of the SB17 cooling core may be located behind $x=0$.

7.4 Lubrication and coolant lines

All lubricating oil lines must be made out of metal or, in the case of flexible lines, they must have an outer abrasion and flame resistant (flame-retarding) braid and they must have threaded connectors. All lubricating oil lines must have a minimum burst pressure of 70 bar at a temperature of 232° C.

All lines must be fitted in such a way that any leakage cannot result in any liquids accumulating inside the cockpit.

Coolant thermostats are permitted.

7.5 Lubricant and coolant containers

Containers for engine oil must be designed as a separate and removable component.

The part defined with the engine homologation as oil tank/ oil catch tank must:

- have an inner, usable volume of at least 3 litres,
- be provided with a fluid-level control device,
- be completely located behind $x=400$ mm.

The oil sump breather must vent directly into the oil tank/ oil catch tank.

No part of the vehicle which contains lubricants must be at a distance greater than 600 mm from $y=0$ and behind $x=660$.

Exception:

Components containing gearbox lubricants may also be behind $x=660$.

The tubing of the crankcase ventilation may also be behind $x=660$.

No component containing lubricants may be located inside the cockpit.

Exception:

- The components of the power-assisted steering
- The brake components
- The clutch components

7.6 Gearbox oil cooler

See Art. 9.1a.

7.7 Pressure accumulator

The expansion container for the coolant is a specifically permitted pressure accumulator. There must be no more than one pressure accumulator in the coolant circuit. The accumulated pressure may only be used to compensate the coolant volume. The expansion chamber must not be fitted inside the cockpit, inside the fuel compartment and/or inside the fuel box.

8. ELECTRICAL SYSTEMS

The parts listed in the table below are standard components.

Part specification	Component number
Starter	EB17-015
Engine control unit 5.1	EB17-022D
The wiring loom in the monocoque	EB17-032
Alternator	EB17-014
Paddle-Shiftcontrol unit including compressor and valve block	EB17-016
Dashboard DDU	EB17-044
Windscreen wiper motor	EB17-013
Power control modul	EB17-051
Gyro sensor (yAW)	EB17-050
ADR	EB17-033
Marshalling System	EB17-034

Table 36

The parts listed in the below table are listed components.

Part specification	Component number
Master relays	LB17-003
Battery	LB17-005 LB17-005.1 LB17-005.2
Tyre pressure system	LB17-008

Table 37

8.1 Battery

The only permitted batteries (LB17-005.1, LB17-005.2, LB17-005.3, LB17-005.4) are the ones listed in the DMSB technical list.

Only one battery with more than 1Ah is permitted in each race car.

Exception:

Batteries of the official inboard cameras

The mounting points provided on the rear side the monocoque for this purpose

must be used to fix the LB battery. The bracket for the battery is free on condition that the battery retained in the bracket and attached to the monocoque does not move by more than 3 mm (in any direction) when a force of 25 g is applied from whatever direction

8.2 Starter

The driver must be able to operate the starter (EB17-015) when seated normally. The starter must be capable of starting the engine at any time using the electric energy of the battery stored on board.

8.3 Rear lights

Rear lights, indicators, rain light and brake lights must be in working order at all times.

As soon as the brake pedal is actuated, the brake lights on either side must flash continuously until the pedal is back in rest position. Any actuation of the brake lights, other than through the movement of the brake pedal, is prohibited.

The third stop light (central additional stop light), if fitted to the homologated base car, may be removed. Opening possibly resulting in the contour of the race car must be closed. This may however not result in a modification of the contour above the design line.

8.4 Number-plate lights

The number-plate lights may be removed. Possibly resulting openings in the contour of the vehicle must be closed. This may however not result in a modification of the contour above the design line.

8.5 Headlights

The headlights must at all times during an event be in working order. It is at the discretion of the technical delegate to evaluate if the light intensity is sufficient. The headlights (luminous elements and lamps) are part of the homologation and must be submitted to the DMSB as reference parts.

LED daytime running lights are permitted.

Movable luminous elements/headlights are forbidden.

8.6 Front/side indicator

Indicators must be in place at all times during an event and be in working order. It is at the discretion of the technical delegate to evaluate whether the light intensity is sufficient.

Indicators integrated in the front lighting unit of the homologated series production car must also be located in the front lighting unit on the race car.

Additional indicators outside the front lighting equipment, which are located above

the design line, may be rendered inoperative and/or be removed. The resulting openings must be closed but the scaled contour must not be altered as a consequence.

8.7 Lighting devices/light intensity/LED for the rear lighting equipment

As an alternative to lighting devices complying with ECE standard, LED in working order may be used for the brake light, the rear light and the indicators. The manufacturing specifications listed in the table below are applicable for LED lights.

	Light intensity per LED	Minimum number	On surface
Each brake light	1500 mcd	25	5.000 mm ²
Each indicator	1000 mcd	20	5.000 mm ²
Each rear light	1500 mcd	70	10.000 mm ²

Table 38

Respective of the above table, the technical delegate may approve LED lights which differ from these specifications. LED lights with a corresponding special approval are part of the homologations and must be submitted to the DMSB as reference part.

A transmission factor of at least 60 percent is mandatory for the brake light glasses, the indicator glasses and the light glasses.

The third brake light (central additional brake light) is free.
 The reversing lights must be rendered inoperative.

8.8 Warning light

The use of two blue luminous warning lamps is compulsory and must comply with the following prescriptions. The activated lights must emit a highly visible bright, bold blue light. It is at the sole discretion of the technical delegate to decide whether this requirement is met. One warning light each must be fitted to the following positions on the race car:

Front

On the inside of the windscreen, on the right side directly below the advertising sticker.

Rear

On the inside of the rear window, in central position in the lower area.
 Alternatively, the standard third brake light may be modified so as to have the corresponding function of the registered warning light, in agreement and with the approval of the DMSB.

The rear warning light must be activated by the engine control unit (EB17-022) when all three of the following conditions are met simultaneously:

- 1st gear engaged
- Ignition switched on
- Engine revs dropping from higher than 1000 rpm to lower than 100 rpm.

Furthermore, it must be possible for the driver to switch on the front and the rear warning lamp manually in the case of any starting problems.

The switch for the manual warning lamp actuation must not be situated on the steering wheel and it must be an on/off switch which has no other functions.

8.9 Pit stop lights

In the area of the right and left rear side windows, one (1) signalling light each must be installed and comply with the following provisions:

The shape of the signalling light must be of circular shape and must have a minimum diameter of 50 mm. The signalling light must be made out of the minimum of 17 orange LED.

The light emitting diodes (LED) of the signalling light must be located between 10 mm and 15 mm from the interior of the rear side windows and have an opaque cover in x- and in z-direction towards the window. The signalling light must be completely above $z=750$ mm. The right and left signalling light must be connected in parallel.

For each of the two electrical circuits, there must be two separate switches or alternatively one step switch with separate electrical circuits, outside and inside the car.

The series production bodywork contour may be locally modified in a maximum diameter of 60 mm, also above $z=275$ mm, to accommodate the exterior switch, The switch or switches situated inside the car must be installed so that the driver, when seated normally, is able to operate them. None of these switches must be situated on the steering wheel.

The complete signalling light system must not be connected to the engine control unit and the switches must be simple on/off switches without any additional electronic functions. The switches of this system may have no other function than to switch the signalling lights and/or the rain light on or off.

8.10.1

Lamps must always be used for the purpose which results from its designation and always be activated by the correspondingly defined switches.

8.10.2

The position/DRS display (Display EB17-090) must be installed on the inside of the rear side windows (left and right hand side) with the shortest distance possible to the homologated contour and must be completely visible in side view.

The display must be operational and wired electrically according to the provisions in the specification sheet during qualifying and races.

8.11 Cables/wiring loom

The electrical connections between the following components must always be made through the cables and comply with the wiring diagram of the standard wiring loom (EB17-032).

- ECU –Engine Control Unit (EB17-022D)
- DDU Dashboard Display Unit (EB17-044)
- GCU Gearbox Control Unit (EB17-016D)
- Power module (EB17-051)
- ADR-Accident Data Recorder (EB17-033)
- Marshalling system (EB17-034)
- Windscreen wiper motor (EB17-013)
- Fuel pump connector on the tank (EB17-018)
- Throttle sensor
- Emergency off switch
- Fire extinguisher trigger switch

The electrical connections between the standard wiring loom (EB-032) and the following components must always be made through cables which have an electrical connection to only one of the specified component.

- Compressor paddle shift (LB17-015)
- Radio
- Main relays (LB17-003)
- Starter (EB17-015)
- Driver drinking water pump
- Pumps for the cooling of the brakes
- Fire extinguisher/fire extinguisher control unit
- Power steering pump (EB17-048)
- Lap trigger
- Pit stop lamps and switches
- Headlights
- Taillights
- Steering wheel

Exception:

Earth and positive cables may have a conductive connection to several of the specified components.

Any cable and electrical connection which is not part of the standard wiring loom and which is connected to a sensor or actuator must be submitted to the DMSB in form of a drawing during the basic inspection of the race car. This drawing must also show all connector types and locations. Any modification of the submitted cable and connectors must be previously approved by the DMSB.

8.12 Permitted sensors

In addition to the sensors which are part of an EB component, only the following sensors are permitted for the car.

	Sensors	max Number
S1	Exhaust gas temperature sensor	2
S2	Airbox intake pressure sensor	2
S3	Airbox intake temperature sensor (LB17-016)	2
S4	Airbox light sensor	2
S5	Brake pressure rear sensor	1
S6	Brake pressure front sensor	1
S7	Cockpit temperature sensor	1
S8	Pressure sensor in the fire extinguisher	1
S9	Suspension travel sensor (LB17-019)	4
S10	Gear identification potentiometer (EB17-016)	1
S11	Throttle position/throttle pedal way sensor	1
S12	Gearbox oil pressure sensor	1
S13	Gearbox oil temperature sensor	1
S14	Structure borne sounds sensor	4
S15	Fuel pressure sensor	2
S16	Fuel temperature sensor	1
S17	Clutch pressure sensor	1
S18	Crankshaft housing pressure sensor	1
S19	Lambda probe	2
S20	Steering angle sensor	1
S21	Engine speed sensor	2
S22	Engine oil pressure sensor	1
S23	Engine oil temperature sensor	2
S24	Engine water pressure sensor	1
S25	Engine water temperature sensor	2
S26	Pneumatic temperature sensor (EB17-016)	1

	Sensors	max Number
S27	Pneumatic pressure sensor (EB17-016)	1
S28	Wheel speed sensor front axle	2
S29	Tire pressure sensor (LB17-008)	4
S30	Lap time signal receiver (Laptrigger) (EB17-058)	1
S31	Sensor for throttle valve adjustment	2
S32	Sensor for cylinder 1 detection	2
S33	Servo oil pressure sensor	1
S34	Servo oil temperature sensor	1
S35	yaw-Rate (incl. Longitudinal and lateral acceleration) Sensor (EB17-050)	1
S36	Battery temperature sensor	1
S37	DRS sensor	1

Table 39

The permitted sensors must always be used for the acquisition of data in relation to the operating state of the car. Any measure or device capable of modifying the output signal of a sensor so that an output signal deviating from the actual operating state can be produced is prohibited whilst the car is in motion. The sensors must always be used for the purpose resulting from the wording of the corresponding sensor, for example the engine oil pressure sensor must always be used for the acquisition of the engine oil pressure. It is at the discretion of the technical delegate to evaluate the eligibility of a sensor and its use in compliance with these regulations.

The measuring points of the eligible sensors for the intake air must be located in the intake system behind the air restrictors and in front of the throttle valves.

The permitted sensors for the acquisition of the wheel speeds may only measure the rotational speed of the wheels at the front axle.

8.12.1 Mandatory sensors

The sensor for the acquisition of the cockpit temperature is mandatory and must be fitted to the outer right face of the headrest, seen in driving direction.

8.12.2 Prohibited sensors

The use of the following sensors is prohibited:

- Gyroscopic sensors
- Combustion-chamber pressure sensors
- Laser sensors
- Force measuring sensors
- Torque sensors

Exceptions:

The yaw-rate sensor EB17-050 is explicitly permitted.

The ADR (EB17-033) sensors are explicitly permitted

8.13 Program and data status of EB component EB17-022D engine control unit, EB17-044 DDU8, EB17-051 power control module, EB17-003 gearbox control unit

The housing of the engine control unit, the DDU8, the power control module and the gearbox control unit will be sealed by the technical delegate or his representative against unauthorized opening. It is the participants' responsibility to see that the seals remain intact. Any participation in a DTM Event with damaged or missing seal is prohibited.

The software version released by the DMSB must under no circumstances be modified, by whatever method.

Solely the standard wiring loom (EB17-032) may be connected to the engine control unit. Any other electrical connection to the engine control unit is prohibited.

The following conditions for the software of standard components must be respected:

Component	Program version	Data status
EB17-044 DDU8	No modification to the version stored at the DMSB permitted.	May be individually modified/applied with the authorized tools. The yellow plug must not be used/connected during an event. <u>Exception:</u> Sensors and period according to 8.12.1
EB17-022D ECU MS5.1	No modification to the version stored at the DMSB permitted.	May be individually modified/applied with the authorized tools.
EB17-051 PCM	No modification to the version stored at the DMSB permitted.	The current values of the exits specified in the table „Powerbox-Application“ (see DMSB server, „Mandatory Regulation Data Files, subfolder EB17-051) may be individually modified/applied. The modified/applied version must be registered with the DMSB before it is used at a DTM event. The function defined in the table „Powerbox-Application“ and the allocation of exits and inlets also fixed in that same table must not be modified.
EB17-003 GCU	No modification to the version stored at the DMSB permitted.	No modification to the version stored at the DMSB permitted.

Table 72

For a gear change, it is permitted to take temporary effect on the engine performance not only through the throttle position but also through the software of the gearbox control unit (GCU) in interaction with the ECU (EB17-022). The signal for the beginning of such an effect through the GCU/ECU must always be released through the actuation of the rocker switch of the paddle shift system. The effect

must end after 250 milliseconds at the latest.

Furthermore, the ECU may only use parameters other than the throttle pedal position for taking effect on the engine performance if at least one of the following provisions is met:

- The pit speed limiter is activated in the pit lane.
- The engine is started.
- The maximum engine speed individually defined by the competitor is achieved. (Solely the maximum speed may be stored).
- The start limitation as stored in the program version is activated.

Furthermore, it is permitted that the ECU takes effect on the engine performance by means of values collected by the permitted sensors for:

- Air pressure
- Oil pressure
- Oil temperature
- Water temperature
- Intake air temperature
- Intake air pressure
- Knocking (S14)
- Airbox light (S4).

Under no circumstances, by any means whatsoever, is it permitted to determine the speed difference between the front and the rear wheels.

The ECU inputs may only be used for the purpose which results from literal sense of its specification. At the input for the oil pressure, only the signal of the oil pressure sensor (S21) may thus for example be connected.

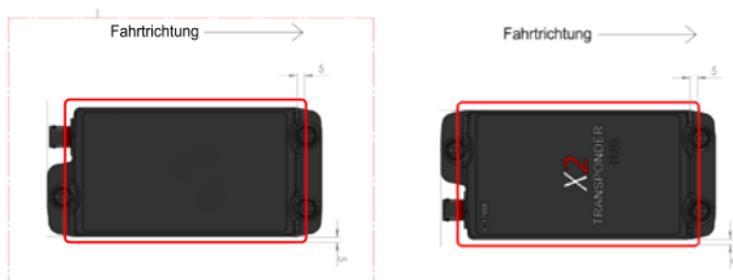
8.14 Timing transponder

For the duration of a DTM event the following applies: the official timing transponder (LB17-018) must be installed and functional. The prescribed power supply must be ensured without an interface (switch, relay, etc) through individual wiring looms to "Pin3 TS Front" of the standard wiring loom. For the corresponding connector on the vehicle side a plug connection type according to the specification in LB17-018 is to be used.

Furthermore, the transponder must:

- be securely mounted to the vehicle and must have no opportunity to move with respect to the coordinate system of the vehicle;
- be located on the right side of the vehicle between $x=20$ and $x=-140$ (only applies to parts within the red contour as shown in drawing Z77);
- be located entirely below $z=200$;
- be mounted so that the cable outlet is directed towards the rear of the vehicle;

- be mounted so that over the entire height of the transponder a min. 5mm wide gap is formed all the way around (see drawing Z77, red boundary) in which no part may be located with the exception of the cable outlet. Any gap filling measure is prohibited.
- be mounted so that in bottom view a display according to the red outline shown in drawing Z77 is visible.



Z77 – Contour (red) of the mandatory gap between parts of the vehicle and the transponder

If instructed by the DMSB or the ITR the competitors can be obligated to install additional timing transponders or other devices ready for operation used to determine lap times, to monitor the speed limit in the pit lane, to detect a false start and to measure pit stop times.

8.15 Dashboard/display (DDU)

The display is a standard component (EB17-044). No display/monitor other than the display/monitor of the DDU may be in the race car.

The software version released by the DMSB may in no case be modified, by whatever means.

The housing of the DDU will be sealed by the technical delegate or his representative against unauthorized opening. It is the participants' responsibility to see that the seals remain intact. Any participation in a DTM Event with damaged or missing seal is prohibited.

Solely the standard wiring loom (EB17-032) may be connected to the DDU.

Operating data and driving conditions of the car may only be transmitted to the driver by means of the DDU8 and additionally a maximum of 60 LED.

Any visual or acoustic "car-to-driver" information, other than the ones transmitted through DDU the display/monitor, to the driver is prohibited.

8.16 Energized systems and/or components

With the exception of the eligible standard components, there must be no energized system and/or component which are capable of taking effect on the engine or the handling of the race car in any kind inside the vehicle.

8.17 Data storage and transmission

Any wireless transmission of vehicle data is prohibited. There must be no system inside or on the vehicle which is capable of transmitting data wirelessly.

Exceptions:

- Radio system
- Marshalling system
- Signal of the official inboard cameras
- Tyre pressure control system (LB17-008). The signals of the system may only be received inside the car.

8.18 Electric motors

Only the following electric motors are permitted in the vehicle:

- One (1) starter (EB17-015)
- One (1) windscreen wiper motor (EB17-013)
- The fuel pumps (EB17-018)
- The drinking water pump provided that the pump and all lines connected to it are located completely inside the cockpit.
- One (1) pump for the power-steering (EB17-048)
- One fluid pump for the windscreen washer system
- The maximum of one (1) motor with a maximum permitted power consumption of 20 watt with the sole purpose of operating the cooling devices for the driver and which must be installed entirely inside the cockpit. The motor must be listed component (LB).
- The maximum of two (2) fluid pumps for the water spray system of the brake system
- The E-Gas actuator (EB17-049D)
- The compressor paddle shift system (LB17-015)

Fluid pumps may not be cooled by air.

Exception:

The servo pump (EB17-048)

8.19 Windscreen wipers

The windscreen wiper motor is a standard component (EB17-013). No part of the windscreen wiper motor must be below $z=400$ mm.

All other components which are required for a correct operation of the windscreen wiper are free on condition that the provisions of these regulations are respected.

The windscreen wiper must be in working order at all times during an event. It must clear the screen in the complete area in front of the driver over a surface of at least 500,000 mm².

8.19a

It is permitted to install a system that allows spraying water onto the front wind-screen whilst the car is in motion. The maximum permitted inner volume of all water carrying components of this system is 1500 cm³. All water carrying components of this system must be located between x=535 and x=735.

8.20 Accident data recorder (ADR – EB17-033)

The accident data recorder (ADR) specified by the DMSB must be used in each car at all times during a DTM Event when the DTM car is in motion and in compliance with the instruction manual. The channels described in the ADR specification sheet of the data acquisition must be made available to the ADR through a CAN-interface.

8.21 Alternator

The alternator is a standard component. The pulley of the alternator is free provided that no other function results from its shape and design other than to drive the shaft of the alternator and to reroute the direction of movement of one (1) belt.

8.22 Power module (EB17-051)

The power module is a standard component (EB17-051). It is permitted to modify the data versions of the module individually on condition that the provisions of 8.13 are respected.

8.23 Material and weight specifications for energized systems and/or components

These material specifications are applicable for the complete component, unless otherwise indicated. If several materials are permitted, the corresponding component must nevertheless be made out of one single material only. If not otherwise indicated, beryllium, ceramic materials, titan, sintered materials, beryllium and boron alloyed aluminium (BORALYN) are prohibited, even if the material specification states “free”.

	Materialvorschrift
Electrical isolation of spark plugs	Including ceramic materials
Pressure sensors	Including ceramic materials
Boards for electrical components	Free, including CFRP

9. GEARBOX, CLUTCH AND DRIVE TRAIN

The parts specified in the below table are standard or list components relevant for this article.

Component	Number
Gearbox	EB17-003
Clutch housing (bell house)	EB17-004/EB17-004V1
Clutch	EB17-005
Propshaft	EB17-011.1D EB17-012D
Paddle-Shift System	EB17-016D
Drive Shaft	EB17-009
Wheel bearing	EB17-024
Gearbox oil cooler	LB17-014,014.1,014.2,

Table 41

The two wheels of the rear axle must be driven.

Any control of a possible difference in wheel speeds is prohibited.

Exception:

Wheel speed differences between the two driven rear wheels may be controlled by means of the eligible differential. The eligible differential is part of the standard component (EB17-003).

Any device or measure which is capable of transmitting torque between the wheels of the front axle is forbidden.

Active systems in the drive train are prohibited.

9.1 Gearbox

Solely the following gearbox ratios are permitted (the figures specified define the number of teeth):

1th gear	2nd gear	3rd gear	4th gear	5th gear	6th gear
15:33	16:26	20:26	24:26	25:24	23:20

Table 42

Reduction gear/dropgear (driving: driven wheel):

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
15:26	18:30	16:26	19:30	19:29	17:25	18:26	20:28	19:26	19:25	22:28

Table 43

Differential

bevel gear	crown wheel
10	31

Table 44

The ramp angle with 45/65 degrees stored in the data set of the EB17 component 003 must always be used in each differential. The installation position of the ramp at the mandatory location is at the discretion of the competitor.

The reverse gear must be in working order at all times during an event. The driver must be able to select the reverse gear when seated normally.

In addition, all the friction plates, steel plates and disc springs specified in the drawing version must be in the differential at all times during the event, completely and as submitted in the description of the standard component. The order (pairing) of steel plates and friction plates in the differential case is free.

Each gear change must be made through the normal operation and function of the paddle-shift system (EB17-016D).

Any other method or design to support the gear change is prohibited.

Whilst the car is in forward motion, a modification of the transmission ratio between the crankshaft and the driven wheels must always be made in the EB gearbox differential unit, and there only through the eligible 6 ratios.

Any other mechanical, electrical, hydraulic or pneumatic device capable of having an effect on the transmission is prohibited.

The composition of the gearbox oil is free.

The attachment of the rear towing band on the standard component gearbox is explicitly permitted and prescribed.

The attachment of the anti-roll bar (EB17-053.100) for the rear suspension on the gearbox (drop gear cover) is explicitly permitted.

9.1a Gearbox oil cooler

The gearbox oil cooler (LB17-014, 014.1, 14.2) is a list component which must be mounted behind $x = 2,300$ mm.

The gearbox oil cooler must be connected in such a way that the entire oil that is delivered by the gearbox oil pump (component of EB17-003) flows through the oil cooler.

9.2 Clutch

The clutch is an EB17 component (EB17-005).

The clutch must be activated by one of the driver's feet only by means of a pedal. Any other method to affect the contact pressure of the clutch friction discs is prohibited.

Exception:

It is permitted to use a pre-pressure valve (LB17-010) in the hydraulic pressure pipe leading to the clutch cylinder.

The following applies for the operation by means of a pedal:

The pedal movement from the clutch cylinder of the pedal block to the clutch release cylinder must be transmitted hydraulically.

It is mandatory to fit the clutch control system with a device which allows the clutch to be jammed when disengaged, even in the event that the circuit breaker is engaged (electrical circuit disrupted).

This jamming must be effected by means of a shut-off valve (LB17-010) included on the DMSB technical list. For the interpretation of these regulations, this device is not considered to be a pressure accumulator. This device must have no other function than the one described above (jamming). The driver must be able to activate this device when normally seated in the car.

A documentation of the operating procedure must be submitted to the DMSB for approval.

9.3 Paddle shift

Shape and material of the finger rest of the shift buttons are free.

The compressor of the paddle shift system is a list component (LB17-015)

9.3a Paddle shift control unit (GCU)

The data and program version of the gearbox control unit is part of EB17-016D. Any individual modification is prohibited.

9.4 Drive shafts

EB17 component EB17-009

9.5 Prop shaft

EB17 component EB17-010

9.6 Wheel bearing

EB17 component EB17-024

10. SUSPENSION AND STEERING

The parts specified in the below table are standard components relevant for this article.

Part specification	Component number
Steering	EB17-008
Steering servo pump	EB17-048
Steering solumn	EB17-057
Steering wheel quick	EB17-047
Front dampers	EB17-030
Rear dampers	EB17-031
Clutch housing	EB17-004
Clutch	EB17-005
Paddle shift system	EB17-016
Drive shaft	EB17-009
Propshaft	EB17-010 EB17-011 EB17-012
Wheel bearing	EB17-024

Table 45

Components of the suspension may not contain any liquid or gaseous substances.

Exception:

- Air in tube materials
- Water that has penetrated through atmospheric influences.

10.1 Suspension:

The suspension of the front axle is an EB17 component (EB17-052).

The pivot and attachment points (U1, U3, O1, O3, S1) must be located entirely inside the areas defined below (10.2).

The suspension of the rear axle is an EB17 component (EB17-053).

The pivot and attachment points (U1, U3, O1, O3, S1) must be located entirely inside the areas defined below (10.2, table 47 and 48).

10.2 Areas for suspension pivot points

The pivot points U1, U3, O1, O3 and/or S1 of the EB17 suspension components may only be located inside the defined in the table 47 and 48. The volume results from the distance between the base and top surfaces. The assignment of component to the respective volume given in the tables below is binding.

In any case the four centre lines of the holes for the EB17 suspension attachment (pick up points) must be identical to the four centre lines of suspension attachment holes which are located directly under the surface of the relevant volume.

Outside of these volumes no other suspension components or other parts which are moved by the compression or rebound of the suspension may be attached or have a pivot point.

Exceptions:

- O2, U2, S2, PR2
- EB parts provided that a position of an attachment point and/or pivot point is defined in the relevant specification sheet outside the volumes.
- Brake lines*
- Water lines for brake cooling*
- Electrical lines for wheel speed sensors*
- Sealing collar for feedthrough parts*

*provided that the listed components fulfil no other function other than the one resulting from the literal sense of the component description.

1 - FS 01 front suspension, upper wishbone front					2 - RS 01 rear suspension, upper wishbone front				
Base surface	P1	-136	-368	352	Base surface	P1	2440,634	-199,841	387
	P2	-84	-368	352		P2	2489,498	-182,056	387
	P3	-84	-368	308		P3	2489,489	-182,056	323
	P4	-136	-368	308		P4	2440,634	-199,841	232
Top surface	P1	-136	-418	352	Top surface	P1	2457,735	-246,825	387
	P2	-84	-418	352		P2	2506,599	-229,04	387
	P3	-84	-418	308		P3	2506,599	-229,04	323
	P4	-136	-418	308		P4	2457,735	-246,825	323
FS 02	Wheel carrier				HA 02	Wheel carrier			

3 - FS 03 front suspension, upper wishbone rear					4 - RS 03 rear suspension, upper wishbone rear and RS S1 tie rod				
Base surface	P1	455	-333	312	Base surface	P1	2927,5	-169	387
	P2	455	-409	312		P2	3016	-169	387
	P3	455	-409	248		P3	3016	-169	343
	P4	455	-333	248		P4	2927,5	-169	343
Top surface	P1	405	-333	312	Top surface	P1	2927,5	-219	387
	P2	405	-409	312		P2	3016	-219	387
	P3	405	-409	348		P3	3016	-219	343
	P4	405	-333	348		P4	2927,5	-219	343

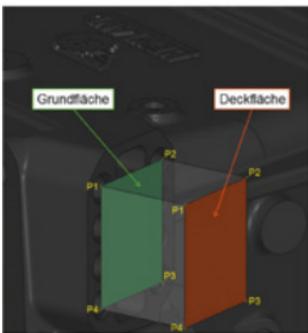
5 - FS U1 front suspension, lower wishbone front					6 - RS U1 rear suspension, lower wishbone front				
Base surface	P1	-148	-190	102	Base surface	P1	2438,386	-200,659	252
	P2	-96	-190	102		P2	2487,25	-182,874	252
	P3	-96	-190	58		P3	2487,25	-182,874	188
	P4	-148	-190	58		P4	2438,386	-200,659	188
Top surface	P1	-148	-240	102	Top surface	P1	2455,487	-247,664	252
	P2	-96	-240	102		P2	2504,351	-229,859	252
	P3	-96	-240	58		P3	2504,351	-229,859	188
	P4	-148	-240	58		P4	2455,487	-247,664	188
VA U2	Wheel carrier				HA U2	Wheel carrier			

Table 47

7 - FS U3 front suspension, lower wishbone rear					8 - RS U3 rear suspension, lower wishbone rear				
Base surface	P1	455	-279	202	Base surface	P1	2964	-146	202
	P2	455	-393	202		P2	3016	-146	202
	P3	455	-393	118		P3	3016	-146	158
	P4	455	-279	118		P4	2964	-146	158
Top surface	P1	405	-279	202	Top surface	P1	2964	-196	202
	P2	405	-393	202		P2	3016	-196	202
	P3	405	-393	118		P3	3016	-196	158
	P4	405	-279	118		P4	2964	-196	158

9 - RS S1				
Base surface	P1	2964	-146	277
	P2	3016	-146	277
	P3	3016	-146	233
	P4	2964	-146	233
Top surface	P1	2964	-196	277
	P2	3016	-196	277
	P3	3016	-196	233
	P4	2964	-196	233

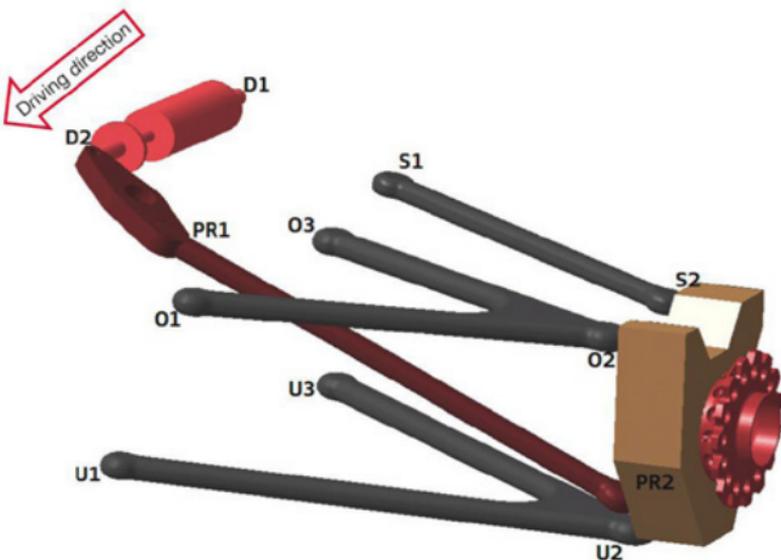
Table 48



Z32 – Schematic display of permitted areas for pivot points

The Y figures in this table are equally applicable on both sides of the vehicle.

The bearings attached in the three areas of a wishbone (e.g. VA 01, VA 02 and VA 03) must respectively be connected with each other through a wishbone.



Z67 – Diagram of the fixation points and pivot points and their position

10.2a

The distance between the pivot points A + B defined in table 99 may not vary when the vehicle is in motion.

Pivot point	A	B
	O1	O2
	O3	O2
	U1	U2
	U3	U2
	S1	S2
	PR1	PR2
	PR1	D2

Table 73

10.2b Relative motion between suspension points

No relative motion is permitted between the points O2, U2, PR2 and S2 and the wheel carrier when the car is in motion.

No relative motion is permitted between the points O1, O3, U1, U3 and D1 at the front axle and the monocoque when the car is in motion.

No relative motion is permitted between the points O1, O3, U1, U3, S1 and D1 at the rear axle and the monocoque when the car is in motion.

No component used to attach or adjust parts of the suspension may be executed in such a way as to modify the distance between the pivot points of a component in any way possible by whatever means whilst the car is in motion.

For the purpose of article 10.2a and 10.2b the car is also considered to be in motion during the entirety of a pit stop for which the car stops for less than 10 seconds in front of its designated pit. Possible penalty times are not considered for the determination of the time.

Only the following components may have a connection with the wheel carriers as well as with other vehicle parts:

- Pushrod (EB17-052.19/20, EB17-053.19/20) to the rocker (EB17-052.21, EB17-053.21)
- Brake cooling air duct (EB17-091/092)
- Brake water cooling (EB17-094)
- Brake fluid pipe
- Wheel speed sensor wiring
- Drive shafts (EB17-009)
- Whisk bones (EB17-052.10/11/12, EB17-053.10/11)
- Tie rods (EB17-052.13/14, EB17-053.13/14)

10.3 Suspension clearance

It must be possible to move the completely fitted suspension upwards by at least 30 millimetres when applying a force of maximum 350 Newton, measured at the exterior end of the corresponding wheel-hub, when the suspension is relieved, the wheel and the suspension springs and dampers removed and the anti-roll bar detached.

No fixation or pivot point on the vehicle side must change its position in relation to the monocoque when the car is in motion.

Exception:

- Point S1, exclusively on the front axle (see Z67)
- Point PR1 (see Z67)
- Point D2 (see Z67)
- O2, U2, S2, PR2

With the exception of mechanical movements of EB17 suspension parts (EB17-052 and EB17-053) resulting from the driving dynamics any device or measure which is capable of affecting the ground clearance, the dampers, the spring characteristic and/or its preload whilst the car is in motion is forbidden on the vehicle.

Any device or measure that is capable of limiting the suspension travel or offer resistance to the suspension travel is prohibited.

Exception:

The resistance provided by the suspension springs in line with the regulations Resistance resulting from the use of EB17 components in line with the regulations Components define in article 10.5.1 and 10.5.2

Third element (EB17-052.200.3) at the front suspension

The assessment if a device or measure complies with these provisions is at the sole discretion of the Technical Delegate.

Any system using the driving dynamics (accelerations) in order to temporarily or permanently limit the free movement or offer resistance to the movement of the dampers and/or suspension springs is also prohibited.

10.4 Springs

The use of steel coil springs is mandatory. The coil springs have to be installed in a manner so that the piston rod of the dampers (EB17-030 and/or EB17-031) runs inside the coil spring, parallel to the suspension travel and may not be in contact with any other part of the vehicle with the exception of the damper (EB17-030/031).

A maximum of two steel made coil springs (each made out of steel) may be actuated per wheel, provided that the same damper piston rod is located inside both springs. Other spring elements are prohibited.

Any measure which allows altering the preload of the springs without having to removing the front and/or rear bodywork is prohibited.

10.5 Dampers

The dampers are EB17 components (EB17-030 = front damper, EB17-031 = rear damper). 4 dampers are mandatory in the vehicle (2x EB17-030, 2x EB17-031).

The damper oil is part of the EB17 component.

One damper must be mounted for each wheel. The relative movement between damper housing and piston rod must be activated through the movements of one rocker (EB17-052.21/EB17-053.21) (per damper) only.

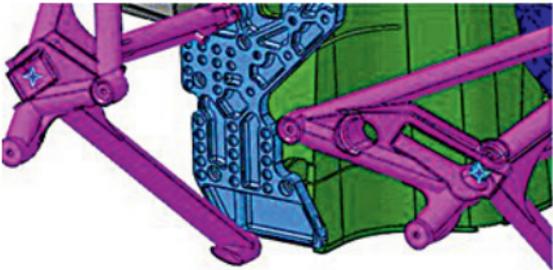
All parts of a rocker must rotate solely around the bearing axis of the bearing of the EB17 component.

The bearing for the rockers at the front axle (part of EB17-052.21) must be mounted according to drawing Z95 to the frame (EB17-002/EB17-02D), the bearing for the rockers at the rear axle (EB17-053.21) according to drawing Z94 to the gear box (EB17-003)



Mitte Umlenkhebellager
X: 2670
Y: ± 145
Z: 400

Z94 Sole permitted mounting position for the rocker at the rear axle



Mitte Umlenkhebellager
X: 40
Y: ± 373,5
Z: 393

Z95 Sole permitted mounting position for the rocker at the front axle

Solely the relative movement between damper housing and piston rod may affect the damper when the car is in motion.

No component of a damper may change and/or move as a consequence of the longitudinal and/or transverse acceleration of the vehicle.

Exceptions:

- piston stroke
- movement of internal valves

Each wheel must and may activate only one single EB17 shock absorber with its movement. The activation may only occur through the movement of the rocker (EB17-052.21front/ EB17-053.21 rear).

It is permitted to individually change the damper characteristic at all times during an event whilst the vehicle is standing still provided that the adjustment is exclusively made by turning the adjustment valves mounted to the outside of the damper as provided for by the manufacturer.

It is permitted to mount one spring travel sensor per damper.

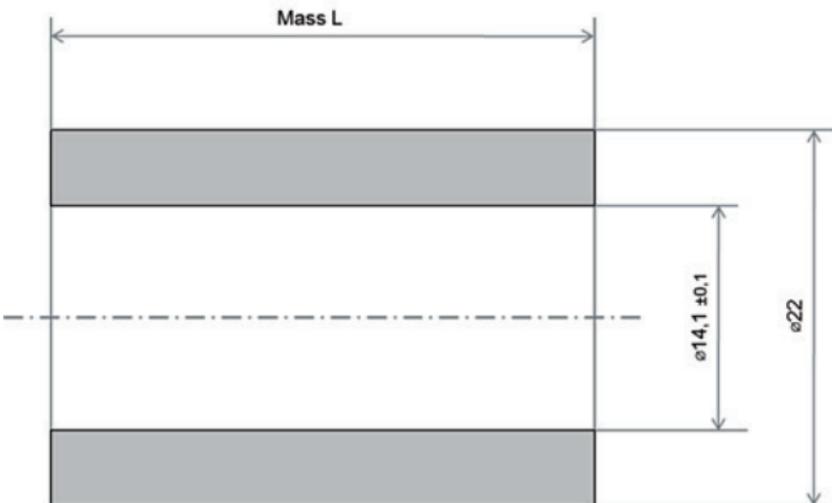
It is permitted to mount one ball or needle bearing as well as two washers to the piston rod outside the damper housing. The bearing and washers used must be made out of steel.

10.5.1 Inner sleeve (bump limiter)

It is permitted to place an individual cylindrical sleeve around the piston rod as stroke limitation inside the damper housing. The sealing of the damper must not be damaged as a consequence.

The following provisions apply for the sleeve:

- Inside diameter: 14.1mm, tolerance ± 0.1
- Outside diameter: 22.0 mm, tolerance ± 0.2
- Material: POM with a density between 1.40 and 1.45 kg/dm³



Z83 – Sleeve for damper stroke limitation

No more than one sleeve may be fitted per damper. For the 2017 season, two heights of the sleeve are permitted for each make (dimension L in drawing Z83).

Before the beginning of the event at which the sleeves shall be used for the first time in a car of a make, the technical delegate must be informed in writing which of the two sleeves shall be used in the dampers of the front axle and which ones in the dampers of the rear axle.

Any change to any vehicle of the respective manufacturer in the height or in the allocation (front/rear) once this information is submitted is prohibited. It is however permitted to use the damper without sleeves.

Any change to any vehicle of the respective manufacturer in the height or in the allocation (front/rear) once this information is submitted is prohibited. It is however permitted to use the damper without sleeves.

10.5.2 Outer sleeve

It is permitted to place an individual cylindrical sleeve around the piston rod as stroke limitation outside the damper housing.

The following provisions apply for the sleeve:

- Outer diameter: max. 45mm
- The maximum length of a sleeve is 50mm
- Material: POM with a density of 1.40 to 1.45 kg/dm³ and/or PU respectively silicon with different shore hardness
- The material must be homogeneous and isotropic
- The sleeves may also be slotted (crescent)

The sleeve according to 10.5.1 and 10.5.2 must have no other function than to limit the stroke of the damper.

10.6 Anti-roll bar (EB17-053.100)

Components which are not part of the anti-roll bar may not be in contact with the sprung element of the anti-roll bar at any time. The anti-roll bar must not have any device which allows the driver to adjust the roll bars whilst the car is in motion.

Any measure which allows altering the setting of the dampers, the anti-roll bar and/or the 3rd element (EB17-052.200) without previously having to removing the front and/or rear bodywork is prohibited.

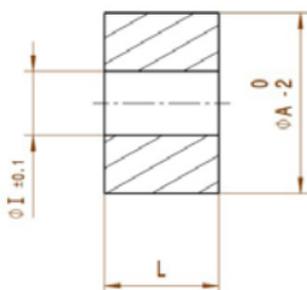
10.6a 3rd element front (EB17-052.200)

The 3rd element can optionally be used with or without the packers according to EB17-052.200.11. The number of packers used/installed is not limited provided that all are placed around the piston rod inside the housing of the 3rd element.

The 3rd element can optionally be used with or without the spring elements according to LB17-020. The number of spring elements used is not limited provided that all enclose the piston rod inside the housing of the 3rd element entirely.

The 3rd element can optionally be used with or without one of the four sleeves according to drawing Z123 below. The number of sleeves used/installed is not limited provided that all are placed around the piston rod of the 3rd element inside the housing.

The sleeves must enclose the piston rod inside the housing of the 3rd element entirely. The sleeves must be made entirely either out of POM with a density of 1.40 to 1.45 kg/dm³, aluminium or steel.



Variante	ø l	ø A	ø L
1	14,2	22	frei
2	14,2	30	frei
3	14,2	36	frei
4	14,2	42	frei
Material		Alu, Stahl, POM	

Z123: Dimensions of the four permitted sleeves.

10.6b Droop stop bracket rear (EB17-053.100.25)

The droop stop bracket can optionally be used with or without the limiter according to SB17-002

10.7 Wheel carrier (EB17-052.01 R/L – EB17-053.01 R/L)

The wheel carriers are standard components.

10.8 Wheel hubs (EB17-052.03 R/L - EB17-053.03 R/L)

The wheel hubs are standard components.

10.9 Wishbones EB17-052.10, EB17-052.11/12, EB17-053.10, EB17-053.11)

The wishbones are standard components.

Two wishbones must be used for each wheel.

10.9.1 Attachment of water, brake and electrical lines to wishbones

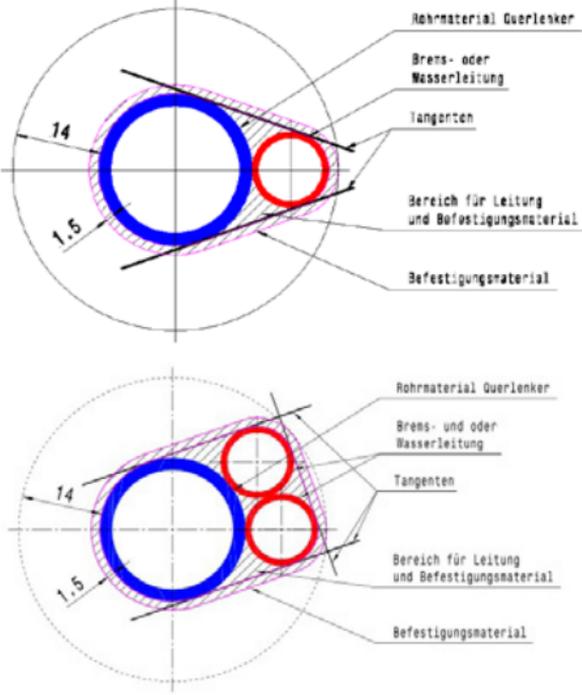
It is mandatory to attach the lines for brake fluid, for water of the brake cooling system and for electricity of the wheel speed sensors (only at the front suspension) to a wishbone tube.

The following provisions have to be met:

- 1) The wishbone tube connects a spherical joint at the wheel carrier with an in-board spherical joint.
- 2) No part of the lines or attachment material may be located further than 14mm from the wishbone tube between the two spherical joints. For the purpose of this provision the tube begins 150mm from the middle of the next spherical joint at both ends.
- 3) Between the two spherical joints within the area defined under 2) the corresponding line must run along the shortest path.
- 4) No line may be attached to two wishbone tubes
- 5) At no section perpendicular to the tube axis may the line be cut more than once.
- 6) No part of the line/lines or the attachment material may be located outside the area defined in drawing Z105.

Exceptions to 6):

- Attachment material with a maximum thickness of 1.5mm that follows the contour of the tube without any gaps may be located outside this area.
- The locking heads of Ty-Raps may be located partially outside the defined area provided that every locking head fits inside a cube with an edge length of 5 mm and the distance between two locking heads is min 150 mm.



Z105 – Permitted area for the attachment of brake or water lines to wishbone tubes

10.10 Tie rod (EB17-052.13, EB17-052.14, EB17-053.13, EB17-053.14)

The tie rods are standard components.

- Tie rods and wheel carrier may only be connected through one unique linkage or pivot point.
- Tie rods and steering may only be connected through one unique linkage or pivot point.
- Beyond this no linkage or pivot points are permitted on the tie rods.

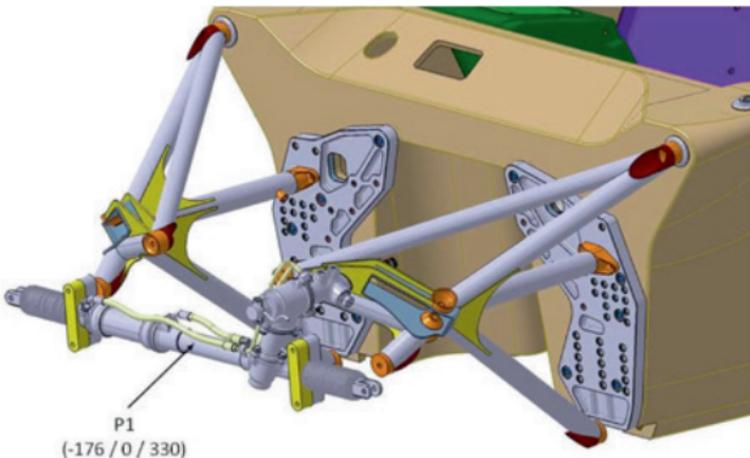
10.11 Push rod (EB17-052.19, EB17-052.20, EB17-053.19, EB17-053.20)

The push rods are standard components.

- Pushrod and rocker may only be connected through one unique linkage or pivot point.
- Pushrod and wheel carrier may only be connected through one unique linkage or pivot point.
- Beyond this no linkage or pivot points are permitted on the push rods.

10.12 Steering

The steering (EB17-008) must be bolted to the engine mount SB17-013 so that the axis of the gear rack runs through point P1 (x=-176 mm, y=0, z=330 mm).



Z69 – Steering position

The steering must operate the front wheels only.

The mounting of the front axle anti-roll bar to the steering (EB17-008) is permitted.

10.12a Steering servo pump (EB17-048)

The EB component servo pump (EB17-048) must be fitted to the 4 points provided for that purpose inside the service box on the tank cover by using 4 so-called silent blocks. The silent blocks must have on each side M8 threads which are solely connected through at least 15 mm high, cylindrical (minimum diameter 12 mm) elastomer.

The servo pump is available from the manufacturer with different speeds. It is at the discretion of the competitor which of the available speeds he wishes to use.

10.12b Steering wheel

One steering wheel which must be connected to the steering column (EB17-057) with a quick coupling (EB17-047) is mandatory in each race car.

The design of the steering wheel is free. The use of CFRP as a material for the steering wheel is prohibited.

Exception:

Add-on parts of the steering wheel may be made out of CFRP on condition that the total weight of all CFRP parts is not more than 100 gram.

The only permitted electrical devices in and on the steering wheel are the ones for the following systems:

- Operation of the radio system
- Operation of the water bottle pump
- LED lamps
- Control for the speed limiter
- Control for the headlamp flasher
- Actuation of the water spray system for the cooling of the brakes
- Actuation of the brake solenoid valve
- Shift levers (EB17-016D)
- Actuation of the windscreen water pump
- Actuation for DDU reset
- Actuation gear 0
- Actuation of the starter
- Activation/deactivation DRS
- Operate starter motor
- Operate speed limiter for “slow zones”

10.13 Drive shaft (EB17-009)

The drive shafts are standard components. Two drive shafts must be used in each car.

11. BRAKES

The parts listed in the below table are EB components.

Part specification	Component number
Brake caliper front	EB17-025
Brakes	EB17-025
Brake cylinder	EB17-020

Table 51

It is permitted to apply temperature sensitive colours on the front side of the brake discs.

It is permitted to apply temperature stickers to the brake callipers EB17-025. The vent plugs and their threads or thread inserts in the brake calliper are free, on condition that the sole purpose of these parts is to vent the corresponding brake calliper as well as the brake pipe system.

11.1.1 Brake circuits

All cars must have two completely separate brake circuits, one operating on the wheels of the front axle and one on the wheels of the rear axle. Each brake circuit must have a separate brake cylinder (EB17-020) which is operated purely mechanically by one and the same foot pedal (component EB17-020) through the application of muscular strength. With the exception of the mandatory EB17 brake cylinders (EB17-020), no other device or measure which is capable of affecting the brake fluid pressure is permitted in the complete brake system.

The pressure in the brake circuit must be used solely for the purpose of pressing the brake pads against the brake disc.

The brake system must be designed so that if a failure or a leakage occurs in one circuit, the second circuit remains fully functional.

11.1.2 Brake force distribution

The distribution of the brake force between the front and rear axle may only be influenced through the brake force distribution mechanism (brake balancer EB17-095) and the brake balance adjuster (part of EB17-020) whilst the car is in motion. A hydraulic connection between the two brake circuits is not permitted.

With the exception of the brake force distribution mechanism (EB17-095) no device whatsoever may be present in the car which allows to influence the brake force distribution between the front and rear axle and/or between the right and left side of the vehicle.

There must be a fixed ratio that may not be changed whilst driving between the

brake pedal, the brake balance adjuster and EB17-095. The use of the brake balance adjuster may not result in any function other than the distribution of the brake force between front and rear axle. Any other mechanical, hydraulic, pneumatic, electric or electronic device or measure which is capable of affecting the brake force distribution and/or the braking pressure is prohibited.

11.2 Preload

For the sole purpose of arresting the rear brake circuit during the start procedure, a solenoid-operated valve (LB17-001) is permitted but it must have no other function than to completely open or close the corresponding brake pipe. This valve must be operated by the driver only by means of a simple on/off button or switch which has no other function.

The valve must be controlled by the power control module (EB17-051). The valve control must be designed in a way that the corresponding brake pipe can only be closed by means of the valve when neutral or the 1st gear is engaged.

In addition to this eligible control, there must be no other device or measure in the car which allows the driver to operate the valve. The only permitted solenoid-operated valves are the ones included in the DMSB Technical List.

For the interpretation of the present regulations, the above described function is not considered to be a pressure accumulator.

11.3

Only one brake calliper (EB17-025) per wheel is permitted. The brake callipers including their attachments must be completely accommodated within the corresponding wheel disc.

11.4

With the exception of the brake pads no part or substance may be located between the pistons of the brake callipers and the brake discs.

Any relative motion between the brake calliper and the wheel carrier is prohibited.

11.5

The use of the brake water cooling (EB17-094) is optional. Any other measure or device which is suitable to deliver other cooling agents than air to parts of the brakes is prohibited.

The activation of the pump of the system may only be realised through a button/switch situated on the steering wheel.

A relative motion between the water containing components and the monocoque is prohibited with the exception of components located inside the wheel arch.

Whilst the vehicle is in motion the water carried on board for the brake cooling may only exit through the intended openings of the EB-spray pipe in close proximity to the brake discs/brake callipers.

11.6 Brake duct (EB17-091/091)

The brake cooling ducts are standard components.

11.7 Servo assistance

Any servo assistance to the brake system is prohibited.

11.8 Active systems

Active systems in connection with the brake system are prohibited.

Exception:

The transmission of the brake pressure to the DRS is permitted.

11.9 Anti lock system

Any device or measure designed to prevent one or several wheels from locking when the driver applies pressure to the brake pedal is forbidden

11.10 Pressure accumulator

Pressure accumulators in the brake system are forbidden.

11.11 Various

The number of brake discs for the season 2017 is limited to 3 sets (6 front discs, 6 rear discs) per race car. See also DTM 2017 sporting regulations.

12. TYRES, WHEELS AND PNEUMATIC JACKS

The parts listed in the below table are EB or LB components.

Part designation	Component (EB)-Number
Air jacks	EB17-017
Air jacks	EB17-060
Rear slicks	EB17-061
Front rain tires	EB17-062
Rear rain tires	EB17-063
Tire pressure control system	LB17-008
Rims	EB17-072/072.1
Valve body	LB17-012
Valve insert	LB17-012

Table 52

The race car in running condition must have 4 complete wheels, two on the front axle and two on the rear axle.

12.1 Rims

The rims are standard components (EB17-072.01/02/03).

Balance weights, valve body (LB17-012), valve insert (LB17-012) and tire pressure sensors (part of LB17-008) are not part of the EB component.

With the exception of the tyre pressure sensor (LB17-008), the valve body, the valve insert and the balance weights no other parts may be attached to the rims.

In no case may the “open cross-section” between the spokes change or be covered.

Components which are not part of the rim and/or are not explicitly permitted here are prohibited.

The liberties for the colour design of the rims are bindingly described in the specification sheet (filed on the DMSB-server).

12.2 Tyres

Only the mandatory standard tyres may be used. The tyres have the following dimensions:

Front: 300/680 R18

Rear: 320/710 R18

12.3 Wheel mounting / Wheel nut (EB17-052.98/99)

The wheel nuts and the corresponding wheel retainer system are standard components (EB17-052.6).

12.4 Air jacks

The vehicle must be fitted with 4 air jacks (EB17-017) at the mandatory positions provided for that purpose.

The air system of the jacks must be completely closed and must not have any connections (apart from the attachment points) to any other part of the vehicle.

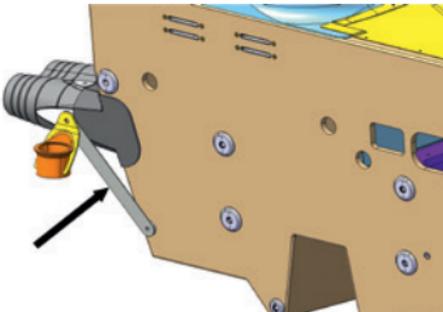
The air jacks (EB17-017) are available with four different stroke heights which may be used in the following 2 combinations/variants only:

	Variant 1	Variant 2
Stroke front suspension	185 mm	155
Stroke rear suspension	200	170

Table 55

The air jacks must be installed in such a way in the car that the lower side of the extending piston are fully visible in bottom view when the pistons are retracted.

The upper attachment point of the rear air jacks on the side crash adapter and the attachment point evident in drawing Z100 on the monocoque (arrow) must be connected with a strut/a component that can transfer a minimum load of 15 kN between the two attachment points.



Z100 – mandatory strut/coupling device between the upper attachment point of the rear air jacks and the monocoque

12.5 Pressure accumulators

The four wheels fitted to the vehicle are explicitly permitted pressure accumulators. The pipes of the EB pneumatic jacks as well as their air chambers are explicitly permitted pressure accumulators.

12.6 Tyre pressure control/adjustment systems

Any system adjusting the air pressure in the tyres is prohibited.

For the purpose of this prohibition it is not permitted to design any part of the complete wheel in such a way as to permit air leaking from the tyre whilst the car is in motion. It is at the sole discretion of the technical delegate to judge if any leakage is caused deliberately.

The tyre pressure must only be monitored by using LB component 008.

12.7 Tyre warmers

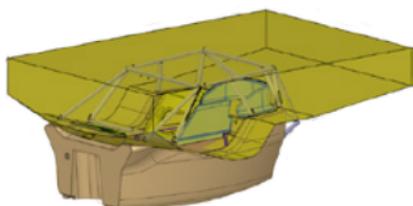
The tyre warmers are standard components (EB17-059D).

12.8 Various

The number of tyres per event is limited. See also sporting regulations.

13. COCKPIT

The area of the vehicle defined as “cockpit” is shown in drawing Z107 and defined through the volume filed on the DMSB server under „SB17-015 cockpit volume“ as a 3D data set. Areas of the volume that are located outside the contour of the race car and components which form the contour are not considered to be part of the cockpit. All other components which are located inside the volume are considered to be inside the cockpit.



Z 107 – the area of the vehicle defined as cockpit

13.1 Cockpit openings

Any connection between the engine compartment and the driver's seat must be closed in a way to prevent any passage of fluid and/or flames to the driver, regardless of the vehicle's position.

Any connection between the gearbox compartment and the driver's seat must be closed so as to prevent any passage of fluid and/or flames to the driver, regardless of the vehicle's position.

13.2 Position of the driver's seat

Only one single driver's seat is permitted in the cockpit.

The seat must be installed on the left side of the car, seen in driving direction, at the position inside the monocoque provided for that purpose.

13.3 Pedal box

The pedal box is a standard component (component EB17-020).

It is permitted to attach any components to the pedal box provided that:

- the EB17-component remains unmodified
- the attached component has no influence whatsoever on the electrical, hydraulic or pneumatic signals/impulses.

To dampen the pedal movement solely dampers in accordance with LB17-011 are permitted. The use of said dampers is not mandatory.

Individual spacers between the pedal box and the mandatory attachment points on the monocoque are permitted.

The footrests of the pedals may be individually designed, provided that a maximum

of two screws per pedal is used.

The brake/ clutch cylinders of the EB component are available in different designs (see specification sheet). It is at the discretion of the competitor to decide which of the specified cylinders he uses on condition that the cylinder always complies with the stored data version.

As potentiometer for the throttle position any one of the two potentiometers defined in the specification sheet under “variations” may be used.

13.4 Driver ambient air temperature

When the race car is in motion, the ambient air temperature around the driver’s head must not be more than 40° Celsius.

Exception:

In the case of an outside temperature of 30 or more degrees Celsius, the maximum permitted ambient air temperature around the driver’s head is 10 degrees above the outside temperature.

No air from the engine and/or gearbox compartment may pass to the driver.

13.5 Accessories

Components and/or accessories which are not explicitly permitted in these regulations may only be used if they have no influence on the driving characteristics of the race car. Under no circumstances may the use of these components and/or accessories have an influence, whether directly or indirectly, on the engine power or characteristics, the steering, the drive train, the brakes, the handling and/or the aerodynamic downforce. The assessment if components or accessories comply with these regulations is at the sole discretion of the Technical Delegate.

13.6 Adjustment systems

Only the following systems or components may be adjusted and/or changed or controlled by the driver seated in the cockpit:

• DDU reset
• Throttle unit by means of accelerator
• DRS activation
• Driver cooling air (change flow direction)
• Driver’s door (opening and closing)
• Fire extinguisher system
• Operating switch for the instruments
• Speed limiter
• Gearbox (gear change)

• Main curciut switch
• Clutch (change in distance of the friction plates)
• Steering (steering angle front wheels, activation of servo pump EB17-048 with engine = out)
• Neutral switch
• Rear view mirror
• Windscreen washer system
• Windscreen wipers
• Windscreen heating
• Side windows (opening and closing)
• Safety belts
• Indicators
• Actuation signalling lights
• Adjustment of seat
• Radio communication
• drinking water pumps
• Electric motor (LB) which is located inside the cockpit
• Warning light
• Water spray system for brake cooling
• Ignition switch

Table 68

To activate functions of systems depending on the activation of aforementioned systems is considered to be a coupling of systems.

The driver may only operate the above listed systems even if he is located outside the cockpit during the time between the end of a qualifying and the start of the subsequent race.

The control of the electric motor for the driver cooling air must be limited to the on/off function. Different fan speeds are not permitted.

13.7 Cockpit design

The cockpit must be designed so that the extrication of the driver by means of the Kendrick Extrication Device (K.E.D®) is not obstructed. The design of the cockpit in this area and of the corresponding components must be submitted to the DMSB for approval before the race car is built.

14. SAFETY EQUIPMENT/REGULATIONS AND SEAT

14.1 Safety belts

It is mandatory to wear two shoulder straps, one abdominal strap and two straps between the legs.

The belts must be homologated by the FIA and comply with the norm 8853-2016. The anchorage points of the belts and the installation in the race car must be executed in compliance with the provisions of Article 253.6 of the Appendix J to the ISC. The belts must be guided through the slots provided for that purpose in the monocoque and be attached to the inserts of the monocoque also provided for that purpose.

14.2 General circuit breaker

The driver, when seated normally with the safety belts fastened and the steering wheel in place, must be able to cut off all electrical circuits of the car by means of a spark proof circuit breaker switch.

The switch must be marked by a symbol showing a red spark in a white edged blue triangle.

There must also be an exterior cut off switch with the same function. It must be situated immediately in front of the windscreen on the exterior left hand side of the car and in close proximity to the trigger switch for the extinguisher system. It must be marked by a red spark in a white-edged blue triangle with an edge length of at least 12 cm.

14.3 Fire extinguisher system/fire extinguishers

The vehicle must be equipped with a fire extinguishing systems homologated by the FIA for Touring Cars.

The extinguishant pipes and extinguisher nozzles must be arranged so that the extinguishant discharges into the cockpit and into the engine compartment when the system is triggered. The extinguisher nozzles must be suitable for the extinguishant and be installed in such a way that they are not directly pointed at the driver.

The following information must be visible on every extinguisher:

- a) Capacity
- b) Type of extinguishant
- c) Weight or volume of the extinguishant
- d) Date of the inspection of the extinguisher
- e) Manufacturer, type designation, serial number and production date

This date must not date back more than two years since the last filling or the last check.

All the information listed here and if applicable the pressure indicator of the fire extinguishing system must be located so that a check is easily possible.

All fire extinguishing containers must be mounted at the positions provided for that purpose in the monocoque (EB17-001).

All supports and mounting points, together with the fire extinguisher container completely mounted in the car, must be able to withstand an acceleration of at least 25 g.

All fire extinguishing equipment must be fire-resistant.

Any triggering system having its own source of energy is permitted, provided that it is possible to operate all fire extinguishers should the main electrical circuits of the car fail.

The driver must be able to trigger the entire volume of extinguishing agent manually when seated normally in the car with his safety belts fastened and the steering wheel in place. Furthermore, an outside triggering device combined with the circuit-breaker switch must be in place. It must be marked with a letter "E" in red inside a white circle of at least 10 cm in diameter with a red edge. The triggering system must be situated close to the outside general circuit breaker on the left side of the car, at the lower part of the windscreen.

The system must work in any position of the car.

The extinguishant container of the fire extinguisher system is an explicitly permitted pressure accumulator.

14.3.1

From his normal seating position, the driver must be able to exit the car within 7 seconds through the driver's door and within 9 seconds through the passenger's door. At the beginning of this test the driver must be seated normally in his car. He must wear his usual driving equipment and his helmet and all the seat belts must be fastened. The steering wheel must be correctly mounted to the car and the doors must be closed.

14.4 Towing device

Each car must be equipped with a rear and a front towing rope which is guided through the front and the rear crash element and fitted:

- At the front, directly to SB component 009 (adapter plate crash element)
- At the rear directly to EB component 003 (gearbox).

The rear towing rope is a EB component (EB17-012)

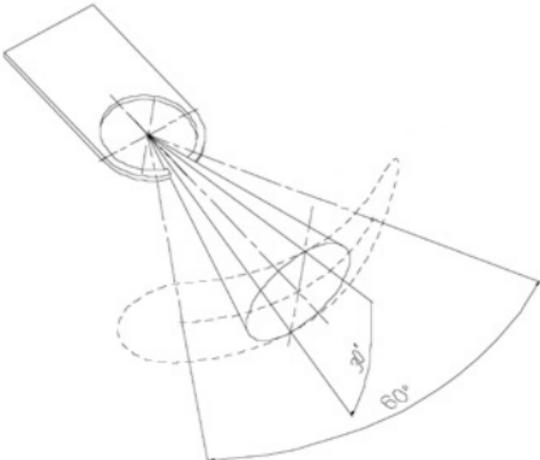
The towing rope must be fitted so that it protrudes over the front and the rear contour of the vehicle, when required, and that it is possible to create a loop with the rope outside the contour and without using tools, with this loop having an internal diameter of at least 60 mm in plan view.

The towing loops must be placed in such a way that easy access is provided should the car be stopped in a gravel bed.

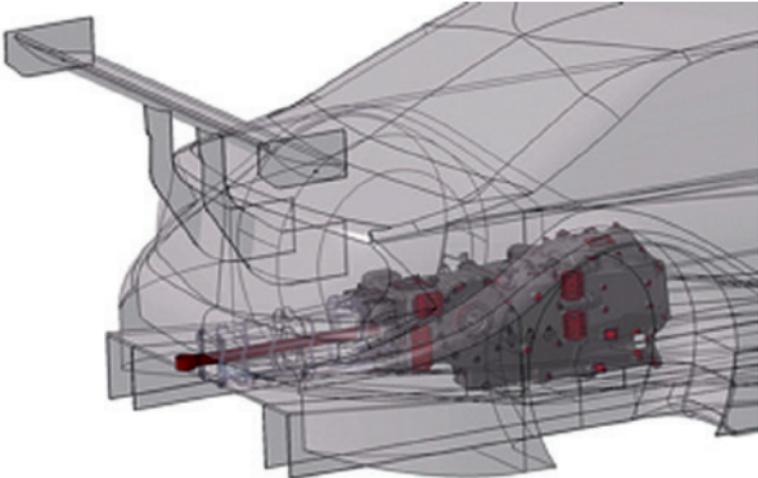
The towing ropes must be painted in clear contrast to the car's colour.

Each towing rope and the associated attachment must withstand the following forces without any structural damage:

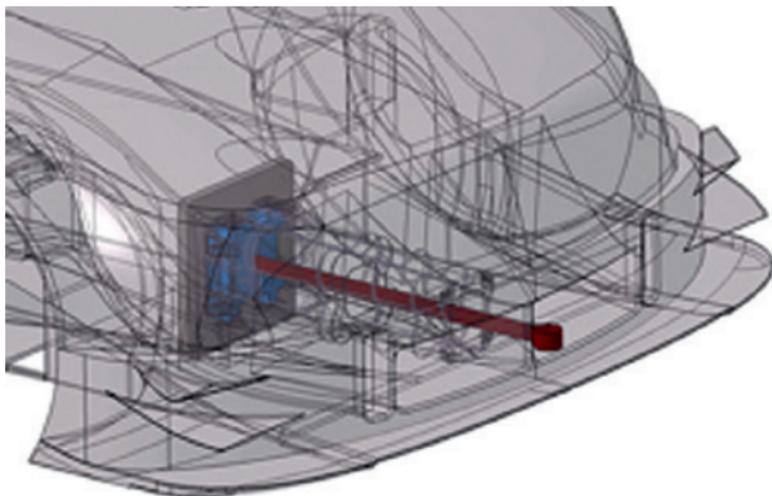
A force of at least 30 kN applied within 3 seconds which is maintained over a period of 60 seconds. The maximum possible area for the vector of the force application is defined in drawing Z 71.



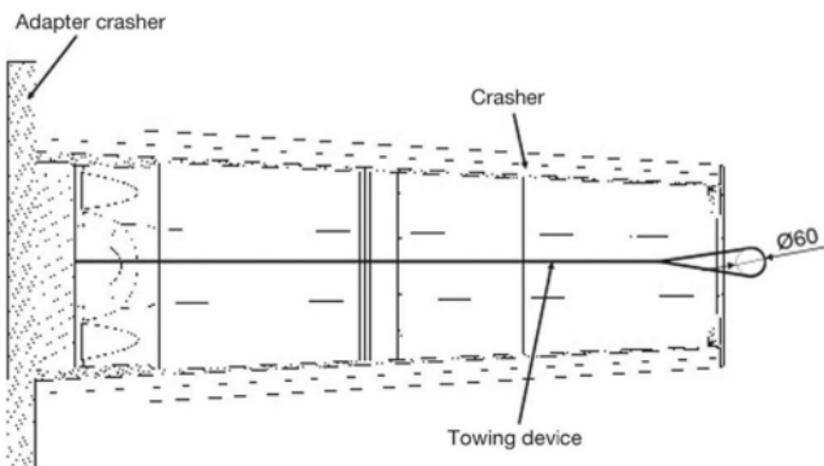
Z71 – Maximum vector for force application towing rope



Z72 – Rear towing rope



Z73 – Front towing rope



Z74 – Internal diameter of the towing eyes

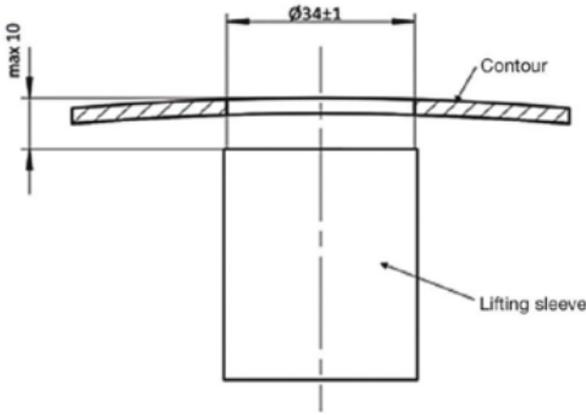
14.5 Lifting devices

A lifting sleeve must be fixed at each of the fixation points on the rollover structure provided for that purpose.

The lifting sleeves must be fitted so that the vehicle with a full fuel tank can be lifted with a recovery device and be transported. The centreline of the lifting sleeves must always run vertically to plane z0 of the race car.

The distance of the intersection point of the centreline with the exterior contour of the vehicle and the exterior contour of the lifting sleeve must not be more than 10 mm. There must be an opening with a diameter of 34 mm (tolerance ± 1 mm) in the exterior contour above each lifting sleeve.

Under normal driving, it is permitted to bridge the gaps of the openings with adhesive foil.



Z75 – Position lifting sleeve/contour

The application of the openings and of the lifting sleeves is part of the vehicle homologation and specified in the homologation form. The design must be submitted to the technical delegate for approval before the final homologation.

14.6 Head and Neck support

The use of an FIA homologated head and neck support for the drivers is mandatory.

14.7 Driver seat, driver seat inlay and head protection

The parts listed in the below table are standard components.

Part specification	Component number
Head protection	EB17-021
Seat inlay	EB17-027

Table 56

14.8.1 Driver seat

Foam with a thickness of 20mm (in unloaded condition) must be applied between the lowest point of the driver's pelvic region (when seated normally with the safety belts fastened) and the corresponding contact surface on the monocoque floor.

The driver's seat must be designed in a way that the highest point of the driver's helmet is situated below $z=1,000$ mm when the driver in his racing equipment is seated normally with the safety belts fastened.

No part of the driver's helmet must be located in front of $x=1,745$ mm when the car is in motion.

Only homogenous foam material is permitted for the driver's seat. The foam used must have a minimum density of 25 g/litre according to the specification sheet of the foam manufacturer.

The side of the seat facing the driver must be covered with a flame-resistant material (e.g. Nomex fabric). The cover material used must not contain any resin.

14.8.2 Driver seat inlay

Standard component EB17-027

14.8.3 Head protection

Standard component EB17-021

The attachments of the head protection must be marked so that they can be easily and immediately identified/ located by the rescue staff.

It must be possible to remove the head protection without tools.

It is permitted to cover the head protection with flame-resistant material. For this purpose, the material chosen must be bonded with the head protection over its entire surface.

14.9 Pressure accumulator

A pressure accumulator is permitted inside the seat inlay to optimise the seating comfort. The pressure accumulator must not have any connections to other components of the car. Only air taken from the cockpit may be stored inside the accumulator. A pressure reduction may only take place diffusely. Pressure variations must be initiated by the driver's muscular effort only. The maximum permitted volume of the pressure accumulator is 1 litre; the maximum permitted excess pressure is 300 mbar.

15. MONOCOQUE ROLLOVER STRUCTURE AND SUBFRAME

The parts listed in the below table are standard components relevant for this article.

Part specification	Component number
Monocoque	E17-001
Rollover structure	EB17-001.1
Engine subframe	EB17-002/EB17-002D

Table 57

The parts listed in the below table are specification components relevant for this article.

Part specification	Component number
Engine shear panel	SB17-006
Engine flange plate	SB17-010
Engine bracket	SB17-008

Table 58

The serial number of the monocoque is the vehicle identification number.

The vehicle identification number and the codes of the transponder laminated into the monocoque form a unit which must not be modified without the approval of the DMSB.

15.1 Monocoque

The monocoque (EB17-001) must be mounted in the vehicle so that all the monocoque reference points are located at their mandatory position in the coordinate system of the vehicle (see Article 3.2).

Screw attachment points are provided on the safety cell (monocoque + rollover structure) for certain components and their supports respectively (see table 74) which must be used in unmodified form for the attachment of the corresponding components. It is permitted to also attach different components to these points.

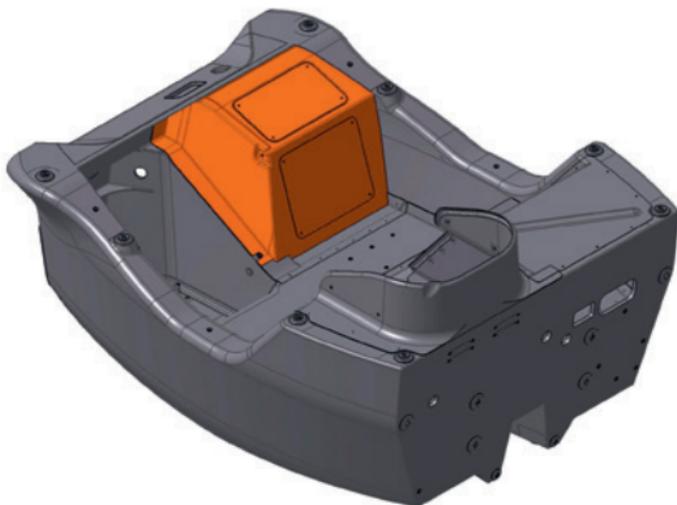
Component	Points provided for the attachment The exact position is of the mandatory points is defined in the file "EB17-001/final machining" on the DMSB server under "mandatory regulation files"
Battery support	118, 119, 120 and 134
Bellhouse (EB17-004/ EB17-004V1)	110 , 111, 112, 113, 114 and 115
Flange plate (SB-010)	96-101, 103-106, 108, 109
Engine monocoque bracket (SB17-008)	102, 107
Engine plate (SB17-006);	1 and 6
Front subframe	94 and 95
Skid pad frame (EB17-035)(EB17-002)	1 - 10
Floor (EB17-082)	11 - 14 , 17 - 20
Bracket for steering servo pump	(4 topheads inside the service box on the fuel tank cover)
Fire extinguisher system	90 - 93
Air jacks (EB17-017);	116 and 117
Pedal box (EB17-020);	23 - 38
Safety belts	39 - 63 , 121 - 132
Rollover structure (EB17-001.1);	64 - 73

Table 74

Unused apertures in the monocoque must be closed. Design and material of the closings are free.

15.1.2 Cover service box

It is permitted to apply individual openings to the cockpit side cover of the service box (see drawing Z7, brown indicated surfaces) and to the tank box (see drawing Z7a, green indicated surfaces), respectively, on condition that the total of all individual openings is not more than 600 cm².



Z7 – Service box (brown), part of EB17-001



Z7a – Tank box (green), part of EB17-001

15.2 Prohibited measures to the monocoque

Any thermal treatment of the monocoque is prohibited.

Any repair on the monocoque without the approval of the DMSB is prohibited.

Any measure resulting in an increase of the torsion stiffness of the monocoque is prohibited.

15.3 Rollover structure

Only add-on parts for which an attachment point is provided and submitted may be fixed to the rollover structure. The attachments points must always be used in compliance with their specific purpose and with the submitted definition.

Attachment points on the rollover structure are provided for the following components and they must be used without any modification.

- Bodywork parts
- Lifting device

- Inboard cameras
- Steering column support
- Interior mirror support
- Earth cable

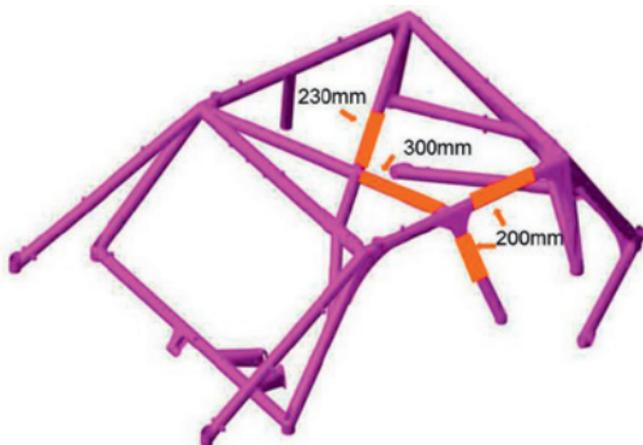
Furthermore, adhesive bonds on the rollover structure are permitted, but the only permitted adhesive is „Würth Klebt und Dichtet“.

Exception:

Any kind of adhesive may be used for the supports of cable ties/tie wraps in accordance with 15.1.2.

The monocoque and the rollover structure are allocated to a driver by means of the vehicle identification number at the latest 8 days before the first event of a season. Any subsequent change is subject to the written approval of the technical delegate. All bars of the rollover structure must have a minimum distance (clearance width) of 75 mm to the driver’s helmet when the driver is seated normally in his car, ready to race and with the safety belts fastened.

The bars in the driver’s vicinity must be provided with a protective padding following the orange marked areas out of drawing Z104.. The material used must comply with the FIA specification (see FIA Technical List 23 http://www.fia.com/sites/default/files/regulation/file/L23_roll_cage_padding.pdf).



Z104 – Positions and minimum length of padding on the roll cage

15.4 Engine subframe (EB17-002/EB17-002D)

Standard component EB17-002 or EB17-002D.

15.5 Engine flange plates (SB17-010)

Specification component SB17-010.

15.6 Engine bracket (SB17-008)

Metal connection to the lower monocoque points.

See Article 5.15

15.7 Engine mount (SB17-013)

The engine mount is a specification component SB17-013.

The engine mount must be made entirely out of steel and/or aluminium and may be designed as a multi-piece component. It must comply with the requirements for the prescribed crash and side pressure test. A corresponding analytical proof is accepted by the DMSB. The DMSB, however, reserves the right to carry out physical tests on the engine mount.

The minimum weight for the engine mount is 3 kilograms. Engine mount (SB17-013), engine bracket (SB17-008) and crash adapter (SB17-009) must have a minimum weight of 9,5 kilograms in total.

The engine mount must be completely situated in an area which is defined by:

x	x	y	y	z	z
-160	-55	-370	+370	80	500

Table 59

The engine mount must be bolted to the engine subframe (EB17-002/EB17-002D) at the points provided for that purpose.

The front mounting points of the upper wishbones (front axle/01) must be located at the engine mount.

Only the following positions are permitted for the mounting points of the wishbones (front axle):

x	x	y	z	z
P1	-146	±190	100	Bolting points Front axle - U1
P2	-98	±190	100	
P3	-146	±190	80	
P4	-98	±190	80	
P5	-146	±190	60	
P6	-98	±190	60	
P7	-134	±368	350	Bolting points Front axle - O1
P8	-86	±368	350	
P9	-134	±368	330	
P10	-86	±368	330	
P11	-134	±368	310	
P12	-86	±368	310	

Table 60

At least two mounting points of the lower wishbones (front axle/U1) must be located at the crash adapter (SB17-009) and be used as mounting points.

The steering connection defined in Article 10.12 must also be respected.

15.8 Engine plate (SB17-006)

The minimum weight for the engine plate is 4 Kg.

The attachment of the steering as defined in Article 10.12 must also be respected.

These material specifications are applicable for the complete component, unless otherwise indicated. If several materials are permitted, the corresponding component must nevertheless be made out of one single material only. If not otherwise indicated, beryllium, ceramic materials, titan, sintered materials, beryllium and boron alloyed aluminium (BORALYN) are prohibited, even if the material specification states “free”.

	Material specification	Minimum weight
Engine mount	Steel and/or aluminium	3 Kilograms

16. SAFETY AND CRASH STRUCTURES

The parts listed in the below table are standard or specification components relevant for this article.

Part specification	Component number
Front crash element	EB17-006
Rear crash element	EB17-006
Side crash element	EB17-007
Front adapter crash element	SB17-009

Table 61

16.1 Front crash element

Standard component EB17-006

The crash element must be fixed to the adapter (SB17-009) by means of 8 M12 screws.

16.2 Rear crash element

Standard component EB17-006

16.3 Side crash element

Standard component EB17-007

The car must be provided with 4 side crash elements.

16.4 Front adapter crash element (SB17-009)

The adapter for the attachment of the front crash element (EB17-006) is a specification component (SB17-009).

The adapter must be made entirely out of steel and/or aluminium and may be designed as a multi-piece component. It must comply with the requirements for the prescribed DMSB crash and side pressure test. A corresponding analytical proof is accepted by the DMSB. The DMSB, however, reserve the right to carry out real tests on the adapter.

The minimum weight for the adapter is 3.5 kilograms. Crash adapter (SB17-009), engine bracket (SB17-008) and engine mount (SB17-009) must have a minimum weight of 9.5 kilograms in total.

The adapter must be completely situated in an area which is defined by:

x	x	y	y	z	z
-220	-70	-230	+230	-2	330

Table 62

The adapter must be bolted to the engine mount (SB17-013) at the minimum of two points.

16.5 Attachment points at the crash elements

It is permitted to use the 4 floating anchor nuts incorporated at the front face of components EB17-006 and EB17-007 for the attachment of components.

It is permitted to use the attachment screws crash elements/crash element adapters also for the attachment of other components.

17. FUEL

Only commercially available, unleaded fuel with the minimum specification „SUPER PLUS“ in accordance with standard DIN EN 228 and which complies with the limit values according to Article 252.9.1 in the Appendix J to the ISC may be used.

Only ambient air may be mixed with the fuel as oxidant. Any artificial modification of the ambient air composition is prohibited.

18. TV CAMERAS AND MARSHALLING SYSTEM

18.1 TV Inboard and onboard cameras

Throughout a DTM Event, all participants must fit and use the cameras assigned by the ITR as well as the electronic devices necessary for their operation, in the cars assigned by the ITR and in the specified position.

The cameras will be assigned at the latest 3 days before the beginning of the event in question.

For each make and at each DTM Event, the ITR will assign a maximum of 4 cameras to a maximum of 2 cars.

The decision which of the below cameras and positions will be installed and operated in what car at which DTM Event is at the sole discretion of the ITR.

Camera	Coverage area of the camera	Mandatory installation point/method
K1	Parts of the dashboard, inboard advertising panel, parts of the bonnet, track in front of the car	Inside the car in the vicinity of the interior mirror. Individual support which makes it possible to incline the camera body fitted in parallel (with reference to the centre axis of the lens) to plane Z0 and Y by +10/-15 degrees (upwards/downwards) and to vary the distance to the A-pillar tube between 20 and 40 mm.
K2	Angle of vision in parallel to plane Y0 to the rear. Parts of the cockpit, parts of the boot lid, parts of the rear wing, the track and area immediately behind the car	Inside the car as close as possible to $Y = 0$ and the rear window. Individual support.
K3	Angle of vision in parallel to plane Y0 to the rear. Track and area immediately behind the car.	Outside of the car or within the contour between $z = 380$ and $Z = 420$ mm. The camera may be located within the homologated contour on condition that the homologated contour is not changed. In this case, the contour immediately in front of the lens of the camera must be transparent. Individual support.
K4	360 degrees rotation, passenger view	Inside the car In the area of the fuel cell, at eye level of the driver. Support is provided.
K5	Driver, steering wheel, parts of the cockpit	Inside the car (right or left hand side) At defined attachment point on the rollover structure Standard support

K6	<p>Viewing direction: forward</p> <p>Field of vision: outer area of the front tire, area beside and in front of car</p>	<p>Outside of the car, right hand side</p> <p>The camera must be fitted so that at least the foremost part of the lens fits entirely inside the area K6 define below: X = 400 up to 900 mm Y = 875 up to 1050 mm Z = 200 up to 450 mm</p> <p>The camera must be fitted so that the central axis of the lens is in parallel to plane FL and that the foremost area of the lens is not covered by any parts of the contour in frontal view.</p> <p>It is mandatory to cover the camera with the specification component 015 (SB17-015). Possible gaps between the homologated contour of the car and SB17-015 have to be closed with surfaces perpendicular to plane Y0. This bridging surface must be homologated.</p> <p>Cars which are not allocated with a K6 must fit the camera cover (SB17-015) according to the aforementioned provisions without a camera. The opening resulting from the absent camera may be closed.</p> <p>If no car is allocated a K6 it is not mandatory to fit the camera cover (SB17-015). In this case it is also permitted to remove the homologated bridging surface.</p>
K8	<p>Viewing direction: forward</p> <p>Field of vision: exhaust exit, lateral aerodynamic add-on components, parts of the track beside and in front of the car</p>	<p>Outside of the car, right hand side</p> <p>The camera must be fitted so that at least the foremost part of the lens fits entirely inside the area K8 define below:: X = 2100 up to 2350 mm Y = 775 up to 975 mm Z = 450 up to 750 mm</p> <p>The camera must be fitted so that the central axis of the lens is in parallel to plane FL and that the foremost area of the lens is not covered by any parts of the contour in frontal view starting at x = 1300 mm.</p> <p>It is mandatory to cover the camera with the specification component 016 (SB17-016). Possible gaps between the homologated contour of the car and SB17-016 have to be closed with surfaces perpendicular to plane Y0. This bridging surface must be homologated.</p> <p>Cars which are not allocated with a K8 must fit the camera cover (SB17-016) according to the aforementioned provisions without a camera. The opening resulting from the absent camera may be closed.</p> <p>If no car is allocated a K8 it is not mandatory to fit the camera cover (SB17-016). In this case it is also permitted to remove the homologated bridging surface.</p>
K9	<p>Track immediately in front of the car, possibly parts of the front splitter</p>	<p>Outside of the car or within the maximum contour.</p> <p>The camera may be located within the race car, on condition that the contour is not changed.</p> <p>In this case, the contour immediately in front of the view field of the camera must be transparent.</p> <p>Individual support.</p>
K10	<p>Viewing direction: face of the driver</p>	<p>Inside, behind steering wheel (viewed from driver) in the vicinity of the DDU</p>

K11	Viewing direction: towards the front so that the steering wheel (as fully as possible) and the area in front of the car (view through the windscreen) is visible	On the outside of the headrest
Incident camera	See article 18.5	

Table 70

The electronic system necessary for the operation of the cameras must be fitted in the standard component EB17-001, in the so-called „camera pan”. The electrical connection of the single components and cameras must be executed in compliance with the conditions defined by the ITR or the assigned service provider.

Any car which is fitted with a K1 must fit an LED in the area of the dashboard and in the view field of K1 and operate this LED during the corresponding event. The LED will be supplied by the ITR and has an independent voltage supply.

All cars, which are not required to carry a camera on board during a DTM Event, must fit a compensation weight in the „camera pan“ throughout the entire duration of the event. The maximum of two individual openings (maximum diameter 12 mm) are permitted in the outside wall of the camera pan to mount this compensation weight. It is not required that the removable separation inside the camera pan is mounted. The camera pan and the compensation weight together must have a minimum weight of 5 kg.

Exception:

For vehicles which have a required car minimum weight of 1026,0 kg through the application of article 26.7 of the sporting regulations there is no minimum weight for the camera pan.

the camera pan.



Z81 – Camera pan, part of EB17-001

All the components and supports of the official cameras must be designed to withstand an acceleration of 25 g.

18.2 Antennas

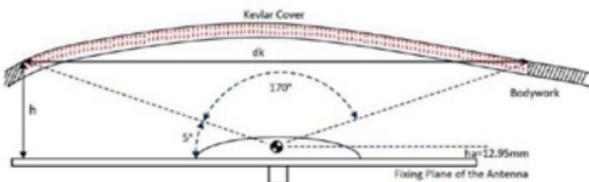
Each car must (exception: antenna A5) be fitted with the following antennas in working order and at the positions specified:

Antenna	Function	Mandatory installation position
A1	MS GPS receiving antenna of the marshalling system	Embedded into the roof inside the area define below: X1400 to x1500 Y-50 to Y+50 The contour of the car must not change due to the installation of the antenna. Above the antenna (in reference to a cone with an angle of 170 degree standing on its tip – see drawing Z83), no parts are allowed made out of carbon fibre or metal. Also, no metal containing decorative film is allowed in this area.
A2	TV signal emitting antenna	On the outside, Y = 0, behind X = 2.130, in parallel to plane z0, distance to A3 = min. 150 mm
A3	MS system emitting and receiving antenna	On the outside, Y = 0, at least 18 cm in front of rear roof edge, distance to A4 = min. 100 mm
A4	TV receiving antenna for the correction/ adjustment/ movement of the inboard camera	On the inside, bonded to the windscreen on the right hand side.
A5	Team radio emitting and receiving antenna	No mandatory position.

Table 71



Z82 – Position of the mandatory antennas



Z84 – Metal and carbon fibre free Area above antenna A1

A1 and A3 form part of the standard component EB17-034 and must be connected and mounted in compliance with the data stored on the DMSB server (Mandatory Regulation Data Files).

Cars which are not required to carry a camera assigned by the ITR during a DTM Event may use a dummy identical in construction (outside design, installation position and weight) instead of A2.

The antennas or antenna dummies fitted to the car are not taken into consideration for the determination of the bodywork height.

Should the A5 signals interfere with one of the mandatory antennas A1 to A4, the competitor must move A5 to another position.

18.3 Telemetry/Radio communication

Any transmission of data and/or signals of whatever kind to a station/device outside the car or vice-versa while the race car is in motion* is prohibited, with the exception of:

- Eligible information displayed to the cars on boards from the pit wall
- Signals coming from the official lap trigger transmitter with the only purpose of establishing pit or sector times (lap trigger signals) and that may only be received by using EB17-058.
- Body movements, signals from the driver
- Voice radio communication (team radio)
- Radio signals of the official TV cameras including the unidirectional transmission of signals referring to vehicle speed, gear and throttle position
- Data communication of the marshalling system

*for the purpose of this article "in motion" also means the time the race car spends in the pit lane during a race.

With the exception of the aforementioned points, any data/signal transmission via infrared, laser, digital/analogue wireless interfaces and similar systems from and to the car during an event are prohibited. During an event, no such device must be inside the race car.

The measurement of tyre and brake temperatures by means of infrared measuring devices on the stationary car is permitted.

18.4 Lap trigger receiver (EB17-058)

With the lap trigger receiver it is permitted to receive and exploit maximum once per lap the signal of the lap trigger signal transmitter installed by the official time-keeping. It is not permitted to exploit signals of other transmitters.

As a reference for the transmitted signals the following parameters must be stored in the control unit (EB17-022) and used without modification:

Axle	Wheel circumference mm
Front	2100

Table 69

18.5 Incident camera

Each participant must mount an operational incident camera (EB17-029) in working order (image and data recording and logging) inside the car so that the pictures recorded by the camera simultaneously show the steering wheel (completely, if possible) and the area in front of the vehicle (view through the windscreen). The technical delegate may request a change of the camera position and of the point of view.

There must be no component between the camera and the steering wheel or between the camera and the windscreen which might obstruct the field of view of the camera.

The required memory card (Micro SD) will be supplied by the DMSB and installed by the DMSB during scrutineering of each DTM Event.

The memory card slot will be sealed by the DMSB before the first free practice. It is the participant's responsibility to ensure that the seal remains intact and that it is not removed until the end of the parc fermé after the second race of an event. Only the official scrutineers are authorized to remove the memory card in the period until the end of the parc fermé after the race.

The camera must be connected so that:

- The voltage supply is ensured in the position „ignition on“
- The voltage supply is only cut off in the position “ignition off”.

18.6 Marshalling System (EB17-034)

The marshalling system is a standard component which must be installed, connected and operated in accordance with the manual stored on the DMSB server. The marshalling system control unit must be mounted on top of the tank box (see drawing 7a).

The marshalling system must be turned on and be operational when the car is in motion in the pit lane or the race track.

19. PROVISIONS APPLYING FOR ALL ARTICLES

The use of the quick refuel valve block is prohibited for the DTM 2017.

19.1 Prohibited materials

The conditions below apply for all parts of the vehicle which are neither listed as EB component nor as SB or LB component.

The use of the following materials is only permitted if explicitly stated in an article of these regulations, including the definition of their specific application:

- Ceramic materials
- Titanium
- Sintered materials
- Beryllium
- Boron alloyed aluminium (BORALYN)

19.2 Material consistence/specifications

to be eligible, at least 88% of the metal alloy must consist of metal components.

All steel must have a volume weight of more than 7.5 gr/cm³.

Aluminium alloy must always have a volume weight of more than 2.5 gr/cm³.

The use of magnesium sheet metal is forbidden.

19.3 Use of composite materials

The use of positive couplings according to DIN 918 in connection with ISO 1891 on or in the components for which the use of composite material is permitted in these regulations is prohibited unless expressly permitted for a certain component.

The use of CFRP is prohibited for the below components:

- Steering wheel (exception see article 10.12b)
- Pipelines
- Attachments of suspension components
- Screws and bolts
- Rotating shafts – exception: propshaft (EB17-010)
- Lubricant containing components

19.4 Coupling of systems

Any device or measure which is capable of converting and/or storing energy from the movement of the vehicle and making it available again to propel the vehicle is prohibited.

Electrical energy must only be stored in batteries and capacitors. Electrical energy for the operation of the electrical systems of the car must always be generated by means of the EB alternator (EB17-014).

Any energy storage inside the vehicle is prohibited with the exception of electrical

batteries and capacitors as well as permitted pressure accumulators.

19.5 Mechanical outputs

Mechanical outputs from the engine and/or the transmission are only permitted to operate:

- the water pump
- the oil pump
- the alternator (EB).

19.6 Hydraulic lines

All hydraulic fluid lines that are not subjected to sudden pressure peaks, with the exception of lines impinged solely by gravity, must have a minimum burst pressure of 408 bar at the maximum operating temperature of 232°C when used with steel connectors. If they are used with aluminium connectors, they must have a minimum burst pressure of 408 bar at the maximum operating temperature or 135°C

All hydraulic fluid lines that are subjected to sudden pressure peaks must have a minimum burst pressure of 816 bar at the maximum operating temperature of 232°C. All hydraulic fluid lines must be made out of metal or, when flexible, these lines must have an outer abrasion and flame resisting (flame-retarding) braid and they must have threaded connections.

19.7 Pressure accumulators

Pressure accumulators are prohibited.

Exceptions:

- They are part of a standard component.
- They are explicitly permitted

In all cases, the accumulated medium must only be used for the purpose specified in the corresponding article.

19.8 Active systems

Active systems are prohibited.

Exceptions:

- Fuel mixture control
- Ignition system
- E-gas controller (EB17-049D)
- Paddle shift (EB17-016D)

19.9 Dry break couplings

The number of dry break couplings in lines containing fluid is limited to 10 in total for the complete vehicle.

Dry break couplings in the brake fluid circuit are prohibited.

19.10 Prohibited system

Prohibited (in the sense of installation and use) are:

- any measures or components not explicitly permitted with the purpose of reducing, damping and/or changing the frequency of oscillations of the vehicle or at the vehicle
- any kind of dynamic vibration absorber and/or tuned mass dampers
- all measures which use movable parts (parts with a relative motion with respect to the monocoque) to accelerate air
- all measures which result in a limitation of the free movement (wheel travel) of EB suspension components or offer a resistance to the free movement

19.11 Panel fasteners

Panel fasteners which are located inside permitted contour modifications (art. 3.9 - A8) may protrude by a maximum of 2mm beyond the original unmodified contour in this area.

20. MODIFICATIONS FOR DTM SEASON 2018 (FOLLOWING YEAR)

The following modifications and amendments are planned for the upcoming homologation period (basic and/or additional homologation).

21. BINDING TEXT

The binding text of these regulations shall be the German version approved by the DMSB with registration number 900/2017.

In the case where drawings, specification or other documents which are relevant to the regulations are only provided in English in the folders relevant to the regulation on the DMSB-server the English text shall be binding for these documents.

Headings in this document are for ease of reference only and do not form part of these regulations.

22. STANDARD (EB), SPECIFICATION (SB) AND LISTED (LB) COMPONENTS

22.1

The following standard components (EB) must totally comply with the data versions and drawings stored in the below listed subfolder and be installed in each car and be used in compliance with their specified function.

EB17-Number	Component specification	The correspondingly mandatory data versions are stored on the DMSB server (dtm.dmsb.de) in the file "MANDATORY REGULATION DATA FILES" and there in the below defined subfolder.
EB17-001	Monocoque with bonded adapters for the mounting of the side crash elements EB17-007	Subfolder: EB17-001 monocoque
	Engine sub frame	Subfolder: EB17-002 front sub frame
EB17-002 EB17-002D	Engine sub frame	Subfolder: EB17-002/ EB17-002D front sub frame
EB17-003	Gearbox	Subfolder: EB17-003 gearbox
EB17-004 EB17-004V1	Bellhouse	Subfolder: EB17-004/ EB17-004V1 bellhouse
EB17-005	Clutch Clutch cylinder	Subfolder: EB17-005 clutch
EB17-006	Front/rear crashbox	Subfolder: EB17-006 crasher
EB17-007	Side crashbox	Subfolder: EB17-007 crashbox side
EB17-008	Steering	Subfolder: EB17-008 powersteering
EB17-009	Drive shaft	Subfolder: EB17-009 driveshaft
EB17-010	Propshaft	Subfolder: EB17-010 propshaft
EB17-011	tbd	
EB17-012	Rear towing rope	Subfolder: EB17-012 rear towing rope
EB17-013	Windscreen wiper engine	Subfolder: EB17-013 wiper engine
EB17-014	Alternator	Subfolder: EB17-014 alternator
EB17-015	Starter	Subfolder: EB17-015 starter
EB17-016D	Paddle shift	Subfolder: EB17-016D paddle shift
EB17-017	Air jacks	Subfolder: EB17-017 air jacks

EB17-018	Fuel cell	Subfolder: EB17-018 fuel cell
EB17-019	tbd	
EB17-020	Pedal box Brake cylinder	Subfolder: EB17-020 pedal box
EB17-021	Headrest	Subfolder: EB17-021 headrest
EB17-022D	Engine control unit ECU	Subfolder: EB17-022D ECU
EB17-023D	Rear wing	Subfolder: EB17-023D rear wing
EB17-024	Wheel bearing	Subfolder: EB17-024 wheel bearing
EB17-025	Front brake caliper	Subfolder: EB17-025 brake caliper front
EB17-026	tbd	
EB17-027D	Seat inlay	Subfolder: EB17-027D seat inlay
EB17-028D	DRS (mechanic)	Subfolder: EB17-028D DRS system
EB17-029	Incident camera DMSB	Subfolder: EB17-029 incident camera
EB17-030	Front damper	Subfolder: EB17-030 damper front
EB17-031	Rear damper	Subfolder: EB17-031 damper rear
EB17-032D	Wiring loom	Subfolder: EB17-032D loom
EB17-033	ADR	Subfolder: EB17-033 ADR
EB17-034	Marshalling system	Subfolder: EB17-034 marshalling system
EB17-035D	Skid pad frame	Subfolder: EB17-035/ EB17-035D skid pad frame
EB17-036D	Adapter fuel cell/flange plate	Subfolder: EB17-036D adapter fuel cell
EB17-037	Side front adapter crashbox	Subfolder: EB17-037 front -adapter crashbox side
EB17-038	Side rear adapter crashbox	Subfolder: EB17-038 rear adapter crashbox side
EB17-039	tbd	
EB17-040	tbd	
EB17-041	tbd	
EB17-042	tbd	
EB17-043J	Refuelling valve	Subfolder: EB17-043J refuelling valve
EB17-044	Dashboard display DDU	Subfolder: EB17-044 DDU
EB17-045D	Performance ballast	Subfolder: EB17-045D performance ballast

EB17-046	tbn	
EB17-047	Steering quick lock device	Subfolder: EB17-047 steering quick look device
EB17-048	Steering servo pump	Subfolder: EB17-048 servo pump
EB17-049D	Actuator throttle valve	Subfolder: EB17-049D actuator throttle valve
EB17-050	YAW Sensor	Subfolder: EB17-050 yaw sensor
EB17-051	Power control module	Subfolder: EB17-051 power control modul
EB17-052D	Suspension front	Subfolder: EB17-052 suspension front
EB17-053D	Suspension rear	Subfolder: EB17-053 suspension rear
EB17-054	Front brake disc chambers	Subfolder: EB17-054 brake disc belt front
EB17-055	Rear brake disc chambers	Subfolder: EB17-055 brake disc belt rear
EB17-056	tbn	
EB17-057	Steering column	Subfolder: EB17-057 steering column
EB17-058D	Lap trigger receiver	Subfolder: EB17-058D laptrigger receiver
EB17-059D	Tyre warmer	Subfolder: EB17-059D tyre warmer
EB17-060D	Front slick tyres	Subfolder: EB17-060 slick front
EB17-061D	Rear slick tyres	Subfolder: EB17-061 slick rear
EB17-062D	Front rain tyres	Subfolder: EB17-062 rain tyre front
EB17-063	Rear rain tyres	Subfolder: EB17-063 rain tyre rear
EB17-064	tbd	
EB17-071	tbd	
EB17-072D	Rims	Subfolder: EB17-072 Rims
EB17-075D	Front-Diffusor	Subfolder: EB17-075 Front-Diffusor
EB17-077D	Mirror	Subfolder: EB17-077 mirror
EB17-078	Rear-Diffusor	Subfolder: EB17-078 Rear-Diffusor

EB17-081	USB Memory Stick	Subfolder: EB17-081USB flash drive
EB17-088D	Mounting braket PW	Subfolder:EB17-088D mounting braket PW
EB17-090	Position/ DRS-Display	Subfolder: EB17-090 P-Display
EB17-091	Front brake duct	Subfolder: EB17-091 Front brake duct
EB17-092	Rear brake duct	Subfolder: EB17-092 Rear brake duct
EB17-093	Rain light	Unterordner: EB17-093 rain light
EB17-094	Brake water cooling	Subfolder: EB17-094 brake wc
EB17-095	Brake balancer	Subfolder: EB17-095 brake balancer
EB17-096	tbd	
EB17-097	tbd	
EB17-098	tbd	
EB17-099	Wheel gun	

Table 63

The design details, CAD data and detailed drawings, including the specified dimensions, shapes, materials, manufacturing processes and installation positions, of the standard components submitted to the DMSB form an integral part of these regulations and are available from the DMSB upon request.

22.2

The following specification components (SB) must be designed in compliance with the drawings and CAD data submitted to the DMSB and they must be used in each vehicle (exception: SB17-016, SB17-017 does not need to be used in the vehicle).

SB17 number	Component specification	The correspondingly mandatory data versions are stored on the DMSB server (dtm.dmsb.de) in the file “Reglement-relevante, verbindliche Datensätze” and there in the below defined subfolders under the same file name as below.
SB17-001	Front Diffusor	Subfolder: SB17-001 front diffusor
SB17-002	Droop Stop Limiter	Subfolder: SB17-002 droop stop limiter
SB17-003	Skid block	Subfolder: SB17-003 skidblock
SB17-004	Rear spoiler lip	Subfolder: SB17-004 standard rear spoiler
SB17-005	Cockpit volume	Subfolder: SB17-005 cockpit volume
SB17-006	Engine shear plate	Subfolder: SB17-006 engine plate
SB17-007	Cooling core	Subfolder: SB17-007 cooling core
SB17-008	Engine monocoque bracket	Subfolder: SB17-008 engine monocoque bracket
SB17-009	Front adapter plate crasher	Subfolder: SB17-009 adapter plate crasher front
SB17-010	Flange plates (engine)	Subfolder: SB17-010 flange plates
SB17-011	Plate spring	Subfolder: SB17-011 plate spring
SB17-012	Propshaft flange	Subfolder: SB17-012 propshaft flansh
SB17-013	Engine bracket	Subfolder: SB17-013 engine bracket
SB17-014	Rear restricted volume	Subfolder: SB17-014 rear restricted volume
SB17-015	Camera dummy K6	Subfolder: SB17-015 Camera dummy

SB17-016	Camera dummy K8	Subfolder: SB17-016 Camera dummy
SB17-017	Tire cover parc fermé	Subfolder: SB17-017 tire cover
SB17-018	Car cover parc fermé	Subfolder: SB17-018 car cover parc fermé
SB17-019	Contour shape rear bumper	Subfolder: SB17-019 virtual contour
SB17-020	Gantry	Subfolder: SB17-020 Schlauchbrücke/ Gantry
SB17-021	Strake box Front diffusor	Subfolder: SB17-021 strake box front diffusor
SB17-022	Area support device FD	Subfolder: SB17-021 area support device FD

Table 64

22.3

The following listed components (LB17 components) and the corresponding manufacturers/suppliers are included on the DMSB Technical List and they must be used in each vehicle. If several components are listed by the DMSB under one and the same LB17 number, it is at the discretion of the competitor to choose which of the listed components he wishes to use. In any case, an LB17 component must be used for the specified function.

Exceptions

The use of the tyre pressure control system (LB17-008) is optional.

The use of the pedal damper (LB17-011) is optional.

LB17 number	Component specification	The correspondingly mandatory data versions are stored on the DMSB server (dtm.dmsb.de) in the file "MANDATORY REGULATION DATA FILES " and there in the below defined subfolder
LB17-001	Hand brake/start valve/ brake solenoid-operated valve	Subfolder: LB17-001 hand brake valve
LB17-002	Rod-end bearings	Subfolder: LB17-002 rod-end bearings
LB17-003	Main relay	Subfolder: LB17-003 relay

LB17-004	Lifelock roof opening	Subfolder: LB17-004 lifelock
LB17-005	Battery/ies	Subfolder: LB17-005 battery LB17-005 .1 battery LB17-005.2 battery
LB17-006 LB17-006.1	Rocker and bearing front	Subfolder: LB17-006 rocker and bearing front RWG LB17-006.1 rocker and bearing front INA
LB17-007	Rocker and bearing rear	Subfolder: LB17-007 rocker and bearing rear
LB17-008	Tyre pressure control system	Subfolder: LB17-008 tyre pressure system
LB17-009	Impact padding	Subfolder: LB17-009 impact padding
LB17-010	Clutch pressure valve	Subfolder: LB17-010 clutch pressure valve
LB17-011	Damper pedal box	Subfolder: LB17-011 damper pedal box
LB17-012	Tire valve	Subfolder: LB17-012 tyre valve
LB17-013	Clutch shut off valve	Subfolder: LB17-013 Clutch shut-off valve
LB17-014	Gearbox Oilcooler	Subfolder: LB17-014 Gearbox oil cooler
LB17-015D	Compressor paddle shift and DRS	Subfolder: LB17-015 Paddle shift and DRS
LB17-016	Intake air temperature sensor (S3)	Subfolder: LB17-016 Intake air temperature sensor (S3)
LB17-017	Control unit tyre warmer	Subfolder: LB17-017 Control Unit Tyre warmer
LB17-018	DRS sensor	Subfolder: LB17-018 DRS Sensor
LB17-019	Suspension travel sensor (S9)	Unterordner: LB17-019 Suspension travel sensor (S9)
LB17-020	Spring element 3rd element	Unterordner: LB17-020 spring element 3. element

Table 65

3. DRAWINGS

No	Drawing specification	Article
Z1	Minimum width of the series production car at cockpit height	2.7f
Z2	Design line characteristics – side view	3
Z2a	Design line characteristics – rear view	3
Z2b	Design line characteristics – front view	3
Z3	Areas in which the wall thickness of composite materials must be at least 0.8 and maximum 3 mm.	3.1.1
Z4	Mandatory material thickness for components of the flat bottom	3.1.1
Z5	Eligible weave and layer characteristics of the permitted filament	3.1.1
Z6	Reference plane for the outlet port of air ducts for the brakes	3.1.3d
Z7	Service box (brown) part of EB17-001	3.1.3e 15.1.2
Z7a	Tank box (green) part of EB17-001	15.1.2
Z8	Position and extent of the AR plane 2 (pink) at $x = -460$ mm	3.1.5
Z9	Position and extend of the AR plane 1 (pink) at $x = 2290$ mm	3.1.6
Z10	Position of the prescribed closed area	3.1.7
Z11	Position of the reference planes	3.2
Z11a	Position of the reference planes	3.2
Z12	Position of the monocoque reference points	3.2
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Table 66

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