SUPERCARS

SUPERCARS OPERATIONS MANUAL 2025

DIVISION "H" – SUPER2 –TECHNICAL RULES – FGX, VF, ALTIMA
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DIVISION "H" – SUPER2 – TECHNICAL RULES – FGX, VF, ALTIMA

H1. GENERAL

H1.1 Preamble

1.1.1 This Division H applies only to the Super2 and the eligible makes and models specified in H1.2.

1.1.2 A Car must remain identical in all respects to the particular model of Car as defined in the relevant VSD and ESD and must be constructed in accordance with the Design supplied by Supercars for the Car except for the freedoms allowed, and to the extent permitted, by the Rules.

1.1.3 Any modification, component or configuration that is not in keeping with the spirit and intent of the Rules is not permitted and where necessary will be banned without notice by Supercars.

1.1.4 In all circumstances the primary function of any component, even if all or part of its Design is free, is the overriding factor in determining its compliance with the Rules. Any secondary function/s, unless specifically permitted by the Rules, are not permitted.

1.1.5 No part of a Car may be modified and/or deleted and/or added to unless permitted by the Rules.

1.1.6 For clarification, in these Rules, unless it says that you can, then you cannot.

H1.2 Model Eligibility & VSD's

1.2.1 Only the makes and models of Cars, as detailed in the table below and for which a VSD is available, are eligible for Competition:

VSD Year	Ford	Holden	Nissan
2017	Falcon FG-X	VF Commodore	
2018			Altima L33

1.2.2 Supercars reserves the right to add and/or remove makes and models of Cars to the above table.

H1.3 CTM Overriding Authority

1.3.1 Traction control is prohibited.

1.3.1.1 The CTM in their sole discretion, which will not be subject to any protest or appeal, has the right to deem any form of program, device, system, component(s), mechanism(s) as traction control.

1.3.2 Aerodynamic enhancement is prohibited.

1.3.2.1 The CTM in his sole discretion, which will not be subject to any protest or appeal, has the right to deem any form of program, device, system, component(s), mechanism(s) as an aerodynamic enhancement.

1.3.3 Fuel trimming during a race is prohibited.

1.3.3.1 The CTM in his sole discretion, which will not be subject to any protest or appeal, has the right to deem any form of program, device, system, component(s), mechanism(s) that aid the Driver in adjusting or trimming the air fuel mixture during a race as fuel trimming.

H2. COMPLIANCE

H2.1 General

2.1.1 A Car must comply with the Design, relevant VSD, ESD and the Rules.

2.1.2 A Car must be constructed in accordance with the Design and comply with all aspects of the relevant VSD, ESD and the requirements of the Rules.

2.1.3 Subject to the approval of Supercars, to be considered eligible for a Super2 Event, a Car must use a body shell that has been used in no less than six (6) VCS Events.

2.1.4 A Car must comply with the relevant sections of Article 277 of Appendix J Category II SH to the ISC of the FIA.

2.1.5 All Control Parts are listed in Schedule H1 and must always comply with the definition of a Control Part.

2.1.6 Each Competitor is responsible for ensuring that their Car complies with the conditions of eligibility contained in the Rules throughout each Event and all Supercars authorised activities including all rides and at a Supercars Test Days as described in Rule D1, unless authorised by the CTM.

2.1.5.1 The testing of non-homologated parts must be requested in writing to the CTM for approval.

2.1.7 The acceptance of the targeted scrutiny declaration conditions will be deemed to be an implicit statement by the Competitor of conformity with the Rules.

2.1.8 It is the Competitor's responsibility to ensure all required Supercars seals are affixed prior to the first qualifying Session at an Event.

2.1.8.1 It is the Competitor's responsibility to ensure all Supercars seal affixed by any Supercars' official remains intact.

2.1.8.2 No Supercars seal may be removed at any time without prior written approval of the CTM.

H2.2 Examination for Eligibility

2.2.1 Should the CTM suspect at any time that a Car does not comply with the Rules, the Competitor, or Authorised Representative, must be so advised and given the opportunity to comment on the suspected or alleged ineligibility.

2.2.2 Any comment so made may be recorded by the CTM, and subsequently may be presented at any Stewards' Hearing.

2.2.3 Should the CTM fail to receive an adequate comment on the suspected or alleged ineligibility, which the CTM alone has sole discretion to consider as adequate or satisfactory, the CTM may require the Car or component to be impounded and examined, including such dismantling as may be necessary, to determine the points of eligibility in question.

2.2.4 At the direction of the Stewards, any components or parts of a Car may be sealed by the CTM for examination by the CTM.

2.2.4.1 For any item sealed and/or identified by any means by the CTM, it is the Competitors responsibility to ensure the item, which may include removable part/s, complies with all conditions of eligibility contained in the Rules.

2.2.4.2 With a view to facilitate scrutineering at the Race Track, each Team is required to:

a) Have available sufficient sets of long damper mounting bolts that have been drilled to facilitate the passage of 1.5mm diameter lock wire.

b) Ensure that the transaxle can be lock wired at the sandwich plate and the two (2) side covers.

H2.3 Disputes

2.3.1 In the case of a dispute about a Car's compliance with any of the provisions of the Rules, such dispute will be referred to the Stewards by the RD or DRD for determination.

2.3.2 The Stewards will conduct a Hearing into the issue and may make any decision thereon.

2.3.3 If, during any such Hearing, the Stewards determine that the matter is of a technically complex nature the Stewards:

2.3.3.1 will refer only the technical issue to the CTM for a determination; and/or

2.3.3.2 may adjourn the Hearing until the determination of the CTM is received; and

2.3.3.3 subsequently resume and complete the Hearing and make a decision taking into account the determination of the CTM.

2.3.4 The determination of the CTM will be unconditionally binding on any Stewards' Hearing in regard to that issue.

H2.4 Minor Non-Compliance

2.4.1 The CTM, having noted an area of minor non-compliance, may endorse the Car's Motorsport Australia log book with an entry regarding rectification of the non-compliance.

2.4.2 Having so endorsed the Car's Motorsport Australia log book, before the Car is permitted on to the Circuit, the CTM must send to the Stewards the Car's Motorsport Australia log book and a note in the following form:

2.4.2.1 "In my view, the minor non-compliance noted in the log book of this Car does not improve the performance to such an extent that the Car should be disqualified from this Event, and thus it may compete in this condition for this Event only."

2.4.3 Upon receipt of the note referred to in Rule H2.4.2, the Stewards may then permit the Car to participate in the Event subject to the endorsement being countersigned by the Stewards in the Car's Motorsport Australia Log Book.

2.4.4 If the Stewards have specifically approved the participation of a Car notwithstanding an endorsement in its Motorsport Australia Log Book pursuant to Rule H2.4.1, then no protest or appeal on that ground by any other person will be accepted in respect of that Event.

2.4.5 Where a question of eligibility is raised during or after Competition and that matter would have been treated as a "minor ineligibility" if raised at scrutiny the Stewards may treat the matter post event in the manner as determined above.

H2.5 Repairs

2.5.1 Any repairs or replacements must take full account of engineering integrity and safety.

2.5.2 The CTM has the right to consider the engineering integrity and safety of any modifications carried out and to require corrective action if appropriate.

2.5.2.1 Should the CTM deem it necessary to inspect any repairs, all costs incurred by Supercars to carry out required inspections must be met by the Competitor.

2.5.3 Restoration of Bodywork and Chassis geometry following accidental damage is permitted only using approved panels and parts or by the addition of materials necessary to affect the repairs (e.g.: body filler, weld metal).

2.5.4 Any repairs to the Chassis must respect the Design.

H3. SCRUTINEERING

H3.1 Targeted Scrutiny

3.1.1 In Australia, each Car will be subject to the provisions of the targeted scrutiny program for each Event. The targeted scrutiny program is an ongoing program which is based on a combination of routine and random audits of Cars and Driver's apparel to ensure that all equipment remains in compliance with the Rules. Routine audits will be conducted on a Car every 12 months or at every 4th Event, whichever comes first.

3.1.2 Outside Australia other requirements may apply in which case the details will be included in the Supplementary Regulations.

H3.2 Onus on Competitor

3.2.1 The onus is on the Competitor to ensure full compliance with all provisions of the targeted scrutiny program as follows:

3.2.1.1 by signing the Entry Registration Form and the Authorised Representatives Briefing attendance sheet for an Event, the Authorised Representative of a Car presented at an Event agrees to abide by the conditions described in the "Declaration of Conformity."

3.2.1.2 Each Car that is selected for an audit at an Event under the targeted scrutiny program must be presented in a complete and finished state at the time advised by the CTM.

3.2.1.3 Driver's apparel will be subject to random audits throughout the Event and must be made available for inspection at any time as requested by the CTM.

H3.3 Location of Targeted Scrutiny

3.3.1 Targeted scrutiny audits will be carried out at each Competitor's assigned Pit Garage or other area as determined by the CTM.

H3.4 Equipment to be Scrutineered

3.4.1 In addition to the audits carried out under the targeted scrutiny program, the following equipment must also be presented to the CTM for inspection and approval at each Event:

3.4.1.1 two (2) x 9 kg fire extinguishers, pressure vessel certification, all Driver's equipment including but not limited to: helmet, FHR device, overalls, underwear, balaclava, gloves, shoes; and,

3.4.1.2 for Events requiring refuelling during a race, all pit crew apparel and refuelling towers (including all components thereof).

H3.5 Additional Scrutineering

3.5.1 The CTM has unfettered discretion to carry out or require additional scrutineering.

3.5.2 The CTM may at any time:

3.5.2.1 check the eligibility of a Car;

3.5.2.2 require a Car to be sealed and/or dismantled to ensure that the conditions of eligibility and/or safety are fully satisfied;

3.5.2.3 require a Competitor to supply to the CTM or the Stewards such parts or samples as may be specified by the CTM; and

3.5.2.4 require that any components or parts of a Car be sealed for examination by the Stewards or by the CTM.

H3.6 Changes/Modifications to Cars

3.6.1 If at any time after the commencement of an Event, a Car has been dismantled or modified in any way which may affect the safety of the Car or which raises any question about its eligibility, or which is involved in an Incident which has similar results, it must be re-presented to the CTM for scrutineering approval prior to being permitted back on the Circuit.

H3.7 Prohibition of Unsafe Cars

3.7.1 Any Car may be prohibited by the CTM from participating in any Competition for safety reasons.

H3.8 On Track Incidents

3.8.1 The RD or the CTM may require any Car involved in an Incident to be stopped at its Pit Bay to be further examined and checked.

H3.9 No Replacement Cars

3.9.1 Replacement Cars are not permitted after the commencement of an Event.

H3.10 Prohibited Work

3.10.1 During any race, it is forbidden to change cylinder blocks (crankshaft case and cylinders) or the Chassis, under Penalty of disqualification.

H3.11 Accidents and Scrutineering

3.11.1 Damage incurred by a Car during any Competition may render it liable to being shown the black flag with orange disc and consequently requiring an immediate return to the Pit Lane for examination by the CTM.

3.11.2 Following any necessary rectification and subsequent to a satisfactory examination by the CTM, the Car may re-join the Circuit at the discretion of the RD.

3.11.3 A Car withdrawn from any Competition due to accident damage must be inspected by the CTM before it is permitted to continue to participate in the Event.

H4. CONSTRUCTION & MODIFICATION

H4.1 Minimum Weight

4.1.1 The minimum weight of a Car is 1400kg and will include the weight of the Driver wearing their complete Driver's apparel as detailed in Rule D23.3, as recorded by the CTM or with the Driver on board.

4.1.1.1 The CTM reserves the right to reweigh the Driver at any point during the Season.

4.1.2 The minimum front axle weight of a Car is 755kg, and will be measured as follows:

4.1.2.1 at the front axle centreline; and

4.1.2.2 with the Driver wearing their complete Driver's apparel on board; or

4.1.2.3 with weights placed in the seat to replicate the Driver's recorded weight.

4.1.3 The minimum weights stated in Rules H4.1.1 and H4.1.2 and must be achieved both during and immediately after any Competition at an Event, with the exception that during any Competition in which refuelling is permitted, the minimum weights must be achieved without fuel.

4.1.4 Supercars reserves the right at all times to amend the weights of Cars in the interests of equitable Competition.

H4.2 Ballast

4.2.1 It is permitted to complete the minimum weight of a Car by one or several units of ballast provided that each unit:

4.2.1.1 is a strong and unitary block; and

4.2.1.2 is fixed by means of tools; and

4.2.1.3 must be attached to the Chassis via minimum grade 8.8 bolts; and

4.2.1.4 is fixed with bolts with a minimum diameter of 8mm for each fixing point; and

4.2.1.5 must have at least two (2) fixing points; and

4.2.1.6 has the ability to affix scrutineering seals; and

4.2.1.7 must not weigh more than 10kg; and

4.2.1.8 must be fitted within the Car's cockpit with the exception that ballast may be added to removable components that have a specified minimum weight only to ensure compliance with the minimum weight specified of that component; and

4.2.1.9 is made of a material which has a maximum relative density of twelve (12).

4.2.2 The minimum Driver mass is 103.5kg which will include the following:

4.2.2.1 Driver's weight with complete apparel as detailed in Rule D23.3 and recorded by the CTM; and

4.2.2.2 the seat, seat brackets, seat insert and all mounting bolts, nuts, washers and spacers; and

4.2.2.3 any additional ballast, which will be considered Driver ballast; and

4.2.2.4 The leg brace and all mounting bolts, nuts, washers and spacers.

4.2.3 Driver ballast must be carried in an area bounded by the following dimensions:

4.2.3.1 X=575mm, X=1985mm and Y=42mm, Y=683mm;

4.2.3.2 Regardless of the above dimensions all ballast must be within the cockpit and no modifications to the Chassis are permitted other than to secure the ballast.

H4.3 Freedoms Permitted

4.3.1 No modifications to a Car as described in the Design or relevant VSD will be permitted unless specifically permitted by the Rules and approved by the CTM:

4.3.1.1 holes providing minimal clearance are permitted to be drilled/made, solely to allow the passage or fixing of a component permitted by the Rules;

4.3.1.2 brackets and/or mounting points are permitted to be added to mount other accessories or components.

4.3.2 Throughout the Car, the use of any nut, bolt, screw, rivet, weld or adhesive is permitted. Where a method/type of attachment is specified in the Design the replacement method/type must be of equal or superior strength and approved by the CTM.

4.3.3 Modifications permitted by the Rules are allowed only on the condition that the weights and/or dimensions contained in the Rules, the Design and the relevant VSD are respected.

4.3.4 Where reinforcement is permitted by the Rules the material used must follow the original shape and be in contact with it. The reinforcements must not create hollow sections and must not allow two (2) separate parts to be joined together to form one (1).

4.3.5 The following areas are permitted to be reinforced:

4.3.5.1 the transmission tunnel at the point where the gear shift lever cradle mounts; and

4.3.5.2 both sides of the transmission tunnel at the centre bearing housing mounts.

4.3.6 It is permitted to join the body side inner at the B-Pillar to the ROPS by means of bracketry not covered in the relevant VSD. The design of these connections is free apart from they must be steel and comply with the following:

4.3.6.1 There must only be a maximum of two (2);

a) one (1) at the top of the B-Pillar (Z > 900mm); and

b) one (1) approximately in the middle of the B-Pillar (Z > 350mm); and

4.3.6.2 The X dimension must be no greater than 150mm and protrude no wider than the body side inner where they are connected; and

4.3.6.3 The Z dimension must be no greater than 100mm.

4.3.7 Where components, which are allowed in the Rules, require a hydraulic or pneumatic connection which is not specifically covered by the Design, hydraulic or pneumatic connections between these components are allowed provided the sole purpose is to allow the correct and normal primary functioning of the components they are connecting and do not require the modification of the components they connect to.

4.3.8 It is permissible to protect the fuel filler necks from flying debris (specifically a delaminating tyre) with a specific guard. This guard may take the form of a change in material and/or construction of the boot side infill panels or a specific shroud for the filler necks. Any such guard must have written approval of the CTM prior to being used in competition. Any such guard may be fitted to both sides regardless of which side the fillers are fitted.

4.3.9 It is permitted to brace between the base of the “C” pillar and the rear Chassis rail. Such brace must be constructed of material with a diameter of 25.4mm or less.

4.3.10 Any device or equipment with a mass of over 300g mounted inside the cockpit must be fastened in a manner such that it can withstand an impact of 25G.

4.3.10.1 If Dual Lock or equivalent is used to fasten the device or equipment, a secondary means of fastening must be used.

H4.4 Additional Accessories

4.4.1 Accessories which have no influence on a Car's behaviour are permitted. For example, equipment which improves the aesthetics or comfort of a Car's interior (lighting, heating/cooling, etc.). In no case may these accessories increase the engine power or influence the steering, transmission, brakes or road holding, either directly or indirectly.

4.4.2 Where the road going version of a model of Car has a display screen in the centre area of the dash, it is permitted to install a screen in that Car for the sole purpose of displaying sponsor logos. Its location and size must remain similar to the particular model, and its design must be approved by the CTM prior to construction and installation.

4.4.2.1 The screen may not, at any time, have an active wireless or Bluetooth connectivity, nor a sim card or eSIM functionality enabled.

H4.5 Composite Components

4.5.1 In addition to the approved Composite Material components contained in the VSD, the items contained in Schedule H1.10 may be constructed from a Composite Material.

4.5.2 Bodywork which is manufactured from a Composite Material must be constructed in a manner to ensure that any debris does not pose a risk of punctures to other Cars.

4.5.3 The Bodywork below is permitted to be constructed from Composite Material and to the layup detailed in the following Schedules:

4.5.3.1 Driver (front right) door skin (Schedule H4)

4.5.3.2 Front guards, front left door skin, rear door skins (Schedule H5)

4.5.3.3 Rear quarter panels (Schedule H6)

NOTE: Where the layup of a particular component is specified as RA 175 T, it is permitted to replace the specified material with equivalent material from different manufacturers or with Innegra® where appropriate.

H4.6 Exotic Materials

4.6.1 The following materials must not be used in the construction or modification of a Car, except as part of a Control Part or where specifically permitted by the Rules:

4.6.1.1 Titanium / Titanium alloy

4.6.1.2 Metal matrix composite (MMC) materials

4.6.1.3 Inter-metallic materials (Ti-Al, Fe-Al, Ni-Al, Ni-Co)

4.6.1.4 Iridium alloys (excluding spark plug electrodes)

4.6.1.5 Rhenium alloys

4.6.1.6 Alloys containing more than 5% Beryllium

4.6.1.7 Ceramic components and ceramic coatings – (excluding spark plugs, Bodywork insulation coatings, exhaust coatings, piston coatings, front bumper bar under trays, brake duct coatings).

H4.7 Manufacturing and Measuring Tolerances

4.7.1 When a Car is being examined, all measurements and tolerances will be those stated in the Rules, Design, the relevant VSD and ESD.

4.7.2 Where a measurement is specified as a maximum or a minimum value, this represents the limit of the permitted variation and no further tolerance will be applied.

4.7.3 All measurements will be taken at ambient temperature except where specified.

4.7.4 Any dispute regarding the compliance of a Car with any measurements in the Rules will be assessed, where appropriate, by the inspection of samples either physical or electronic held by Supercars or the Rules.

H4.8 Vehicle Datums

4.8.1 The Supercars Zero datum is located between the two (2) front Chassis rails in line with the rear pivot point of the front lower control arm.

4.8.2 The Z-axis represents the vertical axis with the lower horizontal surface of the Chassis sill being Z=0mm.

4.8.3 The X-axis represents the longitudinal axis with its positive element pointing to the rear of the Car.

4.8.4 The Y-axis represents the lateral axis with its positive element pointing to the right when seated normally in the Car.

4.8.5 All dimensions relating to the construction and or modification of a Car will be taken in race condition without the Driver on board and will be expressed, where appropriate, in terms of a distance from the fixed datum origins.

4.8.6 For all items that are duplicated symmetrically about the Car centreline, only the positive value has been stated.

H4.9 General Dimensions

4.8.1 At all times, each Car must comply with the general dimensions in the table below.

4.8.1.1 The measurements in the table below must be met on any type of Control Tyre as listed in D17.1.9.

4.8.1.2 The measurements in the table below will be taken with a minimum tyre pressure of 31 psi.

Dimension	Value (mm)
Overall height of roof from Z datum (minimum)	1213.6
Wheelbase (maximum)	2822.0
Bodywork width at front axle centreline (minimum)	1817.0
Bodywork width at front axle centreline (maximum)	1832.0
Front track (maximum width, outside of tyres)	1930.0
Bodywork width at rear axle centreline (minimum)	1872.0
Bodywork width at rear axle centreline (maximum)	1887.0
Rear track (maximum width, outside of tyres)	1905.0

H5. SAFETY EQUIPMENT

H5.1 Seats

5.1.1 The Driver's seat must be of a type homologated by the FIA to the 8862/2009 standard.

5.1.2 The LH mounting face of the Driver's seat must be mounted between Y= 50mm and Y= 60mm.

5.1.3 The inner face of the seat (padding removed) at the lower edge of the shoulder belt holes must be no further rearward than X= 2020mm.

5.1.4 Each seat must be mounted to the seat mounting structures designed for the purpose within the Chassis.

5.1.5 Each Competitor must have a Car which can be fitted with the required safety equipment to undertake passenger rides when required.

H5.2 Leg Protection

5.2.1 Each Car must be fitted with a leg brace manufactured in accordance with the list of materials present in Schedule H9 and approved by the CTM.

5.2.2 The method of fixing is free.

5.2.3 The minimum weight of the leg brace complete assembly including mounting is 3.5kg.

H5.3 Safety Harness

5.3.1 A Car must be fitted with a safety harness that complies with the requirements of FIA Standard 8853/98 or 8853-2016, for each seat fitted in the Car, and must be fitted and worn as required by the Rules.

5.3.2 The safety harness must be installed and used in compliance with Articles 6.2 and 6.3: Safety Belts - Article 253 of Appendix J to the ISC of the FIA.

5.3.3 It is not permitted to attach any type of elastic or other springing medium/device to the shoulder elements of the approved safety harness.

5.3.4 The safety harness of any Car involved in any accident must be inspected by the CTM at the relevant Event. If appropriate, the Motorsport Australia Log Book will be endorsed with a requirement by the CTM that the safety harness be replaced.

H5.4 Window/Racing Nets

5.4.1 Each Car is required to have fitted a Driver's side window net, and where any Car is used to carry a passenger while on the Circuit, the Car must also be fitted with a passenger's side window net. All window nets must comply with the requirements of Article 11: Window/Nets - Article 253 of Appendix J to the ISC of the FIA in addition to the following:

5.4.1.1 They must be permanently attached to the ROPS along the lower edge of the net;

5.4.1.2 They must be affixed to the ROPS above the relevant window by means of a rapid release system so that, even when the Car is inverted, it must be possible to detach the window net with one (1) hand;

5.4.1.3 The window net when released from its operational position must retract so as not to impinge on the door opening when the Car is inverted;

5.4.1.4 It is highly recommended that FIA 8863 2013 Racing Net/s (FIA Technical List N° 48) be fitted to both the left- and right-hand sides of the Driver's seat. These nets must be fitted in accordance with the FIA and manufacturer instructions. In

the case of a Car fitted with a right-hand racing net, it is not required to fit a Driver's side window net, however, the fitment of this window net is recommended.

H5.5 Roll Over Protection Structure "ROPS"

5.5.1 Each Car must be fitted with a ROPS that is constructed in accordance with the Design and the Motorsport Australia Issued Safety Cage Certificate Number 61-00528 which complies with the requirements of Article 8: Rollover Structures - Article 253 of Appendix J to the ISC of the FIA.

5.5.2 In accordance with Appendix J Article 253 of the ISC, all tubes of the cage identified by drawing 253-68 and all roof reinforcements must be fitted with padding compliant with FIA standard 8857-2001, type A (see technical list n°23 "Roll Cage Padding Homologated by the FIA"). Each padding must be fixed in such a way that it is not moveable from the tube. Padding is compulsory only on the Driver's side, except for a passenger session, where it must also be fitted to the passenger side.

H5.6 Fire Extinguisher Systems

5.6.1 Each Car must be fitted with a Lifeline Zero 275 Australian fire extinguisher system – part numbers 105-001-027 and 952-408-002, which complies with the requirements of Extinguisher Systems - Article 253 of Appendix J to the ISC of the FIA in addition to the following:

5.6.1.1 All fire extinguisher systems must be fitted as per the manufacturer's instructions.

5.6.1.2 The canister must be mounted on the front passenger side floor between the following position:

a) X= +850mm and X= +1420mm; and

b) Y= -200mm and Y= -665mm.

H5.7 Tethers

5.7.1 At all times when on the Circuit, Cars must be fitted with four (4) approved tethers from Amick-PWR, one (1) tether at each suspension corner.

5.7.1.1 The rear tethers must be as per the Design (PN: 1V8-101HMT2H).

5.7.1.2 Teams are responsible for the length of the front tethers.

5.7.2 All tethers must be attached to the Chassis and the upright to points that exceed the breaking strain of the approved tether.

5.7.3 The Team is responsible for the integrity of all tethers and their required replacement.

H6. BODY REQUIREMENTS

H6.1 Bodywork

6.1.1 All Bodywork must be identical to the samples both physical and/or electronic submitted by each Homologation Team and/or recorded by Supercars during the homologation process and must be:

6.1.1.1 used exclusively and in their entirety; and

6.1.1.2 used only for authorised Supercars activities.

6.1.2 In all cases where an area is designated or mounting points defined within the Design or the Rules, these areas or mounting points must be used exclusively for the designated purpose.

6.1.2.1 All external panels are required to be attached to the internal panels using a minimum of 4mm steel rivet or equivalent size nut and bolt.

6.1.2.2 In addition to the above, using sealant to bond panels together is permitted.

6.1.3 Windscreen wiper motors, their position and the blades and mechanism are free subject to there being at least one (1) windscreen wiper which clears the windscreen in the Driver's line of vision. The windscreen washer device, the washer bottle and their location is free. It will be permitted to locally modify the polycarbonate windscreen and/or plenum to allow fitment of the windscreen wiper mechanism.

6.1.4 All external airline fittings must be located in or rearward of the "B" pillar (but in the general vicinity of the "B" pillar) and must be recessed so they are not likely to cause injury.

6.1.5 The bonnet and boot lid must be secured, by at least two (2) separate fasteners for the bonnet and two (2) separate fasteners for the boot lid, notwithstanding the hinging arrangements.

6.1.6 The fasteners for the bonnet and boot must comply with the following:

6.1.6.1 The bonnet fasteners used must be of the design under British Patent 2089877 and all bonnet pins must be made of steel.

6.1.6.2 The boot fasteners used must be of the design under British Patent 2089877 and may be modified to suit the application subject to the locking pin being retained on the boot lid catch whilst not engaged.

6.1.7 The front bumper bar retaining bolts on the exposed face of the front bumper bar must be either button heads or recessed into a retaining washer and all fixings must be able to be removed with a 5mm Allen key only.

6.1.8 The minimum weight for any front bumper bar with freestanding headlights, excluding its mounting system, is 13.5kg.

6.1.8.1 The minimum weight for any front bumper bar and headlights molded as a unitary item, excluding its mounting system, is 16.5kg.

6.1.8.2 It is permitted to apply ballast to a front bumper bar to achieve the minimum weight in accordance with Rule H6.1.8 and Rule H6.1.8.1. The ballast must be securely attached to the bar at a location suitable to the Teams and with the approval of the CTM.

6.1.9 It is permitted to support the rear of the undertray from the Chassis or crossmember.

6.1.10 Each Car that utilises wing end plate mounting is permitted to brace between the edge of the boot gutter and the Chassis rail to support wing loadings. The use of any such brace is subject to the prior approval of the CTM.

H6.2 Front Bumper Bar Air Intakes

6.2.1 No part of any intake may protrude forward past the homologated trim line of the radiator or brake ducts as detailed in the relevant VSD.

6.2.2 It is permitted for air intakes in the front bumper bar to be partially or completely blanked provided that any blanking complies with the following:

6.2.2.1 Blanking must only be fitted behind the homologated trim line of the radiator intake or brake ducts and must be either flat sheet or tape.

6.2.2.2 It is permitted to have adjustable blanking provided that any adjustment is made while the Car is stationary. Such change is not permitted to be made by the Driver.

6.2.3 Front bumper bar grille/s must be as homologated and as specified in the relevant VSD.

H6.3 Windscreens

6.3.1 The front and rear windscreens must be of polycarbonate material with a thickness of 6mm ± 0.3mm (the measurement does not include any tear offs or base coat) and must conform to the drawings in the relevant VSD.

6.3.2 The front and rear windscreens must be connected to the Chassis by a minimum of:

6.3.2.1 Bonding using a suitable bonding agent; and

6.3.2.2 Four (4) M6 bolts, one in each corner of the windscreen; and

6.3.2.3 A vertical brace in the centre of the front screen with tensioning capability.

6.3.3 If, as a result of damage, it is necessary to remove the front windscreen a replacement front windscreen must be fitted. The fitment and retention of the replacement windscreen must be inspected by the CTM prior to that Car being allowed to re-join the Circuit.

6.3.4 It is permitted to fit tear offs to the front windscreen.

6.3.5 It is permitted to fit a brace as detailed in the relevant VSD to the rear windscreen.

H6.4 Doors

6.4.1 Each door must be constructed as specified in the relevant VSD.

6.4.2 Each Car must be fitted with a side impact protection device in both the front and the rear doors located on the Driver's side as detailed in Schedule H3.

6.4.3 In addition to the above a carbon honeycomb panel as detailed in the relevant VSD must be affixed to the ROPS and fitted to the front door aperture on the Driver's side.

6.4.4 The windows in each door must be:

6.4.4.1 a clear polycarbonate insert with a minimum thickness of 4.00 mm.

6.4.4.2 The polycarbonate insert fitted to the front doors and rear doors must conform to the design detailed in the relevant VSD.

6.4.4.3 The Driver's and/or passenger's side polycarbonate insert may be removed.

6.4.4.4 The polycarbonate inserts are permitted to be fitted with "NACA" ducts or ventilation holes.

6.4.4.5 Window mounted "NACA" ducts must only be used for demisting the windscreen or cooling the Driver and must either:

a) only have the effect of circulating air within or extracting air from the cockpit.

b) Directing air to or extracting air from a driver cooling system.

6.4.4.6 the front door window polycarbonate inserts must only be retained with the specified "Christmas tree" clip as detailed in the Schedule H7 and also must have

a handle hole located in the polycarbonate insert that complies with Schedule H7.

a) This hole must remain open at all times.

6.4.4.7 The front door window polycarbonate inserts must be able to be removed by an Official at any time if so required.

6.4.5 The inner door panels may be removed from all doors and the Driver's door may be modified to accommodate the fitment of a side impact protection structure as detailed in Rule H6.4.2

6.4.6 The original interior door trim may be replaced with an alternative panel.

6.4.7 The rear doors only are permitted to be retained by elastic strap, for the purpose of aiding a door to remain closed.

H6.5 Rear Vision Mirrors

6.5.1 A Car must be fitted with an internal rear vision mirror which has a reflecting surface of at least 5000mm2, and the mirror must provide an unobstructed view to the rear of the Car.

6.5.2 A Car must be fitted with both a left-hand and right-hand side external rear vision mirror.

6.5.2.1 except at Newcastle East, Reid Park and Surfers Paradise Street Circuits where if the left-hand side external rear vision mirror is removed, the opening must be covered. The use of "race tape" to cover the opening is permitted.

6.5.3 Unless otherwise permitted by the Rules, all external mirrors must remain as homologated. It is permitted to remove the standard adjustment mechanism and replace it with a fixed or adjustable support for the mirror.

H6.6 Tow Hooks and Vehicle Recovery

6.6.1 A Car must be equipped with at least one (1) front and one (1) rear external towing strap which must conform to the following:

6.6.1.1 be constructed of suitable webbing material with a minimum width of 50mm;

6.6.1.2 permit the insertion of a round bar of 40mm diameter;

6.6.1.3 be fitted forward of the front axle and rearwards of the rear axle;

6.6.1.4 be clearly visible, including being of a colour in contrast to the colour of the Bodywork immediately adjacent to the towing straps;

6.6.1.5 be constructed and fitted in such a way that they will not damage other Cars;

6.6.1.6 are capable of withstanding the loads applied during a recovery.

6.6.2 In addition to the requirements of Rule H6.6.1 above, a Car must be fitted with secondary internal tow straps, located inside the boot and under the bonnet, which will be used in more difficult recoveries. These secondary internal tow straps must:

6.6.2.1 be located in the boot and be securely attached to the defined points in the Design and form a 'V' or 'Y' configuration with a single connection point which extends past the extremities of the rear bumper bar and has an 80 mm diameter end loop.

6.6.2.2 be located under the bonnet with two (2) individual straps that are securely attached with a minimum length of 200mm with an 80 mm diameter end loop.

6.6.2.3 have adequate clearance around all components located in the boot and under the bonnet when being used.

6.6.2.4 be rated to a minimum load rating of 1500kg.

6.6.2.5 have gas struts to hold the boot lid open or similar must be fitted and be fully

operational.

6.6.3 The welded tags for the front tow hooks Part No: V8SC-1-048 are optional.

H6.7 Aerodynamics

6.7.1 Other than the Bodywork, no part of a Car is permitted which actually or potentially increases downforce or reduces drag.

6.7.2 The CTM may at any time require:

6.7.2.1 any sensor/s to be fitted to a Car to measure the aerodynamic performance of a Car; and

6.7.2.2 any Car to be tested for aerodynamic performance by any means and at any location to ensure aerodynamic parity.

H6.8 Roof Duct

6.8.1 The fitment of the roof duct if fitted it may be blanked off on the roof surface.

6.8.2 The aperture in the roof must respect the internal shape of the roof duct.

6.8.3 The leading edge of the aperture in the roof must be 100mm ±10mm from the upper edge of the windscreen aperture and in accordance with any instructions advised by the CTM.

6.8.4 The roof duct must be constructed in accordance with the Design and not be modified in any way.

6.8.5 The attachment of additional ducting to the roof duct is permitted. The design of the additional ducting is free provided its sole purpose is for Driver cooling.

H7. SUSPENSION

H7.1 Springing Medium

7.1.1 The springing medium on each corner of a Car must be ferrous of type coil-spring over damper.

7.1.2 The springing medium must consist of one (1) spring on each corner of a Car.

7.1.3 The spring must be of linear rate with a tolerance of +10% on its nominal rate.

7.1.4 The spring must have closed and ground ends.

7.1.5 The pitch of the spring past the first coil turn at either end must be consistent across the length of the spring and be within 1mm.

7.1.6 The wire diameter of the spring past the first turn at either end must be consistent across the length of the spring and be -within 1mm.

7.1.7 Bump rubber, bump rubber packer(s) and spring rubber need to be approved for use by the CTM.

7.1.8 It is permitted to use one (1) bump rubber on each corner of a Car. The bump rubber must be mounted on the damper shaft and not exceed 20mm in height.

7.1.9 The use of bump rubber packer(s) is permitted on each corner of a Car and the combined height is free. The approved material are aluminum, Nylon and Acetal.

7.1.10 It is permitted to use one (1) spring rubber on each corner of a Car.

7.1.11 The spring rubber can only be engaged one turn.

7.1.12 The overall spring rate of all springing mediums in the system is free.

7.1.13 It is not permitted to fit any springing mediums which react the displacement of the damper shaft inside the damper.

H7.2 Front Suspension

7.2.1 The front suspension is free except that:

7.2.1.1 The type of suspension must be double wishbone.

7.2.1.2 The number and position of the suspension pivot points, must be in their entirety and exclusively as per the table below:

Pivot Point	Datum	Location (mm)
Lower wishbone front pivot	X	-320.0 ± 4.0
	Y	±320.0 ± 2.0
	Z	13.0 ± 20.0
Lower wishbone rear pivot	X	0.0 ± 4.0
	Y	±320.0 ± 2.0
	Z	18.0 ± 20.0
Upper wishbone front pivot	X	-150.0 ± 4.0
	Y	±420.0 ± 2.0
	Z	273.0 ± 20.0
Upper wishbone rear pivot	X	140.0 ± 4.0
	Y	±420.0 ± 2.0
	Z	269.0 ± 20.0

7.2.2 The coil over damper assembly fitted to the front suspension must:

7.2.2.1 have the upper mounting point attached to the Chassis within a radius of 20.0mm normal to an axis defined by the following end point locations:

Axis End Point	X Location (mm)	Y Location (mm)	Z Location (mm)
Upper	34.8	±453.0	537.1
Lower	26.8	±473.0	492.0

7.2.2.2 and have the lower mounting point attached directly to the lower wishbone.

7.2.3 It is not permitted to use devices which vary the motion ratio on any suspension links unless specifically permitted by the Rules.

7.2.4 The detachable front suspension cross member is free, on the condition that:

7.2.4.1 it is possible to remove it from the Car (no attachment by welding); and

7.2.4.2 it utilises the mounting points as defined for this purpose in the Design; and

7.2.4.3 must not be constructed or modified in any way that in the opinion of the CTM improves its aerodynamic effect on the Car.

7.2.5 The area defined in the Design for mounting the top wishbones may be modified with the prior approval of the CTM in the following ways:

7.2.5.1 It will be permitted to affix within the defined area, mounting points to allow the fitment of the various design of top wishbones. No part of the mounting system may protrude outside the area defined by the mounting boxes with the following exception:

a) The fixation for the wishbone mounting points may extend outside the defined area provided the only purpose is to retain the wishbone mounting points. (e.g.: bolt heads, weld fillets, etc.)

7.2.5.2 It will be permitted to locally modify the front upper wishbone mounting boxes as defined in the Design solely to allow access to the wishbone mounting points.

7.2.6 The front suspension pivot points on the Chassis and detachable cross member may only be at the approved point. This point must be used as the pivot point for the suspension.

7.2.7 The front suspension travel limiters must be fitted as per the table below:

Datum	Location (mm)
X	By Design
Y	Min ±620.0 measured to centreline of M6 bolts
Z	Max 545.0 measured to tyre contact face

H7.3 Front Upright

7.3.1 The minimum weight of each front upright must be 10.5kg.

7.3.2 The weight of each front upright will be determined after:

7.3.2.1 disconnecting the front upright from the outer joints of the upper and lower wishbones and steering arm; and

7.3.2.2 removing the brake rotor, brake hat, bobbins and brake caliper; and

7.3.2.3 disconnecting all of the ducting and electrics at the closest joint to the front upright.

7.3.3 The front upright weight will include all mounting bolts, nuts, washers and spacers removed

during disassembly of the front upright from the Car.

7.3.4 It must at all times be possible for the following components to be fitted to a Car:

7.3.4.1 Alcon CAR9529ZG51NSLT/RT front caliper;

7.3.4.2 Alcon DIV 2211X252A36 L/R front rotor and suitable mounting hat;

7.3.4.3 Supercars Control 17" Wheel with the 17" Dunlop Control tyre;

7.3.4.4 The caliper studs may be changed to suit.

7.3.5 It must be possible for the Car to be driven at racing speed on any Circuit in this configuration.

7.3.6 The CTM will retain the appropriate sample parts.

7.3.7 Each drive peg for the front wheels must be affixed to the upright spindles as with the Control rear upright. Under no circumstances is a drive peg permitted to be retained in the Control Wheel.

H7.4 Rear Suspension

7.4.1 The rear suspension must be constructed and utilised as defined in the Design.

7.4.2 Each pickup and mounting point must be used in their entirety and exclusively for their intended purpose.

7.4.3 The clevises which mount the wishbones to the Chassis are free and may utilise a system to allow for adjustment within the limits defined in the table below:

Pivot Point	Datum	Location (mm)
Lower wishbone front pivot	X	2535.0 ± 5.0
	Y	±266.0 ± 10.0
	Z	40.0 ± 25.0
Lower wishbone rear pivot	X	2990.0 ± 5.0
	Y	±266.0 ± 10.0
	Z	40.0 ± 25.0
Upper wishbone front pivot	X	2595.0 ± 5.0
	Y	±440.0 ± 5.0
	Z	260.0 ± 25.0
Upper wishbone rear pivot	X	2895.0 ± 5.0
	Y	±440.0 ± 5.0
	Z	260.0 ± 25.0

7.4.3.1 Structural interconnection between any or all of the clevises is not permitted.

7.4.4 The coil over damper assembly fitted to the rear suspension must:

7.4.4.1 have the upper mounting point attached to the Chassis within a radius of 20.0mm normal to an axis defined by the following end point locations:

Axis End Point	X Location (mm)	Y Location (mm)	Z Location (mm)
Upper	2745.0	±479.6	553.2
Lower	2745.0	±496.7	506.2

7.4.4.2 and attach directly to the lower wishbone damper mount in accordance with the Design.

7.4.5 The rear suspension travel limiters must be fitted as per the table below:

Datum	Location (mm)
X	By Design
Y	Min ±760.0 measured to centreline of M6 bolts
Z	Max 560.0 measured to tyre contact face

H7.5 Rear Spindle

7.5.1 The following modifications are permitted to the component detailed in drawing AR-3020 of the Design:

7.5.1.1 Thread direction and length are free; however all other thread detail must be maintained; and

7.5.1.2 It will be permitted to modify the rear spindle to house individual design rear wheel safety clips.

H7.6 Anti-Roll Bars

7.6.1 Both the front anti-roll bars (FARB) and the rear anti-roll bars (RARB) must comply with the provisions of Rule H7.6.

7.6.2 Anti-roll bars must be constructed of one (1) torsion tube/bar for each axle.

7.6.3 Anti-roll bars must be mounted parallel to the Y axis of the Car.

7.6.4 A rocker, which varies the motion ratio between the anti-roll bar rigidly connected to the Chassis and the respective lower wishbone is permitted.

7.6.5 Adjustment of the stiffness of the anti-roll bars from within the cockpit by the Driver is permitted. The adjustment of stiffness must only be achieved by the rotation of either one (1) or two (2) spring steel blades or by telescopic arms attached directly to either end of the torsional tube/bar of the anti-roll bar mechanism.

7.6.6 The FARB must only be mounted to the underside of the front Chassis rails, which includes the angled face.

7.6.7 Modification of the Chassis rail to allow fitment of a FARB rocker is permitted. Any such modification:

7.6.7.1 must only support the rocker; and

7.6.7.2 will be permitted to extend no further than 50mm from the centreline of the rocker; and

7.6.7.3 and no lower than the lower face of the Chassis rail; and

7.6.7.4 and no further inboard than the inner face of the Chassis rail.

7.6.8 The RARB must only be mounted to the rear Chassis rails.

7.6.9 The centre line of the RARB must be:

7.6.9.1 no lower than Z = 280mm; and

7.6.9.2 no further rearward than X = 3095mm.

7.6.10 The torsion tube for the RARB must not exceed 50mm in outside diameter.

7.6.11 Unless otherwise specified, each link in the anti-roll bar system must be of a fixed length.

7.6.12 The link which attaches to the rear lower wishbone must use the unused damper mount on each side or connect to either the front or rear leg of the bottom wishbone exclusively via a

clamped or welded clevis.

7.6.13 No modification is permitted to any Chassis tubing to fit any part of any anti-roll bar system.

7.6.14 It is permitted to locally modify the rear sheet metal to allow fitment of the RARB.

7.6.15 The RARB rocker must only be fitted to the rear Chassis rail and modification of the rear Chassis rail to allow fitment of the RARB rocker will be permitted. Any such modification must only support the RARB rocker. Any modification within the rear Chassis rail will be permitted to extend no further than 50mm from the centreline of the rocker spindle and must not extend externally of the rear Chassis rail save for in the direction of the rocker spindle.

7.6.16 Each modification must have the prior written approval of the CTM.

H7.7 Suspension Adjustment

7.7.1 Where the Rules permit the adjustment of the suspension of a Car, the force required to make such an adjustment must only be generated and controlled as follows:

7.7.1.1 By a member of the Team permitted to work on the Car, while the Car is stationary; or

7.7.1.2 By the Driver, seated normally in the Car with the safety harness correctly fastened, when the Rules permit such an adjustment by the Driver from within the cockpit.

H7.8 Dampers

7.8.1 A Car must only be fitted with any of the dampers designated in Schedule H1.2.

7.8.2 Each damper listed in Schedule H1.2. must only be fitted with the corresponding piston designated in the same table.

7.8.3 The dampers and their internal components as available and supplied by the manufacturer must be equally available to each Team. No modification is permitted to any catalogue part that may affect the passage of oil within the damper.

7.8.4 These will be identified by the means of detailed drawings, photographs, specifications, and samples held by Supercars.

7.8.5 The dampers must comply with the following requirements:

7.8.5.1 adjustment of any damper from the cockpit is prohibited.

7.8.5.2 each damper unit must function independently of each other, i.e., no connections are permitted between damper units.

7.8.5.3 the use of electronically adjustable dampers is prohibited.

7.8.5.4 only one (1) damper per wheel is permitted; and

7.8.5.5 only four (4) damper characteristics that can be adjusted from the outside of each damper are permitted, this number does not include gas pressure adjustment by the adding or removal of gas.

7.8.6 The only form of droop control permitted is a solid spacer located internally in the damper controlling the open length.

7.8.7 Supercars may request a Team to supply their dampers at any time for inspection and testing and have the build specification locked during the season.

H8. ENGINE

H8.1 General

8.1.1 An ESD will detail an engine specification permitted for use in the Category.

8.1.2 Cars must only be fitted with an engine as detailed in an ESD relevant to that make of Car.

8.1.2.1 An engine must not exceed the maximum AEP of 20654 as recorded on the Supercars dynometer.

8.1.2.2 The GMM may at any time require the engine of any Car to be tested for power output by any means and at any location to ensure engine parity.

8.1.2.3 The requests of the GMM regarding engine parity will not be subject to protest or Appeal.

8.1.3 The maximum engine capacity will be 5000cc + 25cc.

8.1.3.1 With prior express permission in writing and with all restrictions applied by the CTM a cylinder block may be bored to achieve a total capacity of 5025cc. All other engine dimensions will still apply.

8.1.4 Each engine must have suitable provision for the cylinder heads, sump and rocker/cam covers to be sealed to the cylinder block so that the cylinder heads, sump and rocker/cam covers are not able to be removed. There must also be provision to affix seals to the water pump and/or timing cover to prevent the camshaft(s) from being removed from the engine.

8.1.4.1 It is the Team's responsibility to ensure any engine installed in a Car is sealed prior to the commencement of qualifying at any Event. Once an engine has been sealed, the seals must always remain intact and legible.

8.1.4.2 These seals must only be removed by the CTM or with the express prior approval of, and subject to the conditions of, the CTM.

H8.2 Other Engine Components

8.2.1 Subject to the provisions of the Rules and the relevant ESD, all of the other components necessary for the functioning of the engine are free.

8.2.2 Unless specified in the relevant ESD the engine oil pressure/scavenge pump assembly must be mounted to the engine (to either side) and be belt driven, via an adaptor, off the nose of the crankshaft.

8.2.3 The oil tank must be positioned in the rear left of engine bay in the area between the firewall and top left damper mounting point.

8.2.3.1 The fill point of the oil tank must be located under the bonnet or in the scuttle panel in the vicinity of the bottom left corner of the windscreen. If located in the scuttle panel it must be fitted with a suitable dry break fitting.

8.2.4 Each Car must be fitted with crankcase/oil tank breather/s discharging to the atmosphere and have fitted to such breather/s an oil-trap container (which must be empty at the start of Competition) of at least three (3) litres capacity.

H8.3 Cooling System

8.3.1 The water radiator must be mounted as follows:

8.3.1.1 The front top edge of the water radiator core must be located at:

a) X = -470mm ± 5mm

b) Z = 380mm ± 5mm

8.3.1.2 The water radiator must be installed such that the bottom of the water radiator

sits closer to the front of the Car than the top of the water radiator.

a) The front face of the water radiator core must be at an angle of 5.0°± 0.5 from the YZ reference plane.

8.3.2 The size permitted for the water radiator core is:

8.3.2.1 Width = 730mm ± 5mm

8.3.2.2 Height = 355mm ± 5mm

8.3.3 Unless specified in the relevant ESD the cooling system must be arranged so the general direction of flow of engine coolant is from the water radiator to the cylinder block and then to the cylinder heads.

8.3.4 The airflow through the water radiator core must be at an angle of 90 degrees to the front face of the water radiator core.

8.3.5 Ducting to the front face of any engine radiator must be from the central orifice in the front bumper bar.

8.3.6 Ducting of air from the rear of any radiator is prohibited.

8.3.7 Engine oil heat exchangers be they oil/air or oil/water are free and ducting to them is permitted however ducting from the rear is not permitted, subject to the heat exchangers and associated ducting being located within the perimeter of the Bodywork and not lower than the lower edge of the front bumper bar.

8.3.8 If an oil/air heat exchanger is used in the same plane, in a unitary assembly with the water radiator, the combined core dimensions must respect those dimensions and restrictions applied to the water radiator core.

8.3.9 No part of any ducting is permitted forward of the homologated trim line of the rear opening in the front bumper bar as detailed in the relative VSD.

8.3.10 Unless otherwise specified in the ESD:

8.3.10.1 All other components of the cooling system, including fans, screens and catch tanks are free.

8.3.10.2 The water pump must be driven directly by the crankshaft via a belt and must be mounted above the crankshaft on the front of the engine.

H8.4 Exhaust System

8.4.1 Each Car must be fitted with an exhaust system.

8.4.2 The outlet pipe/s of the exhaust system must utilise the cut-out provided in the left-hand sill for the purpose.

8.4.3 The outlet pipe orifices must not:

8.4.3.1 project in any way beyond the maximum width of the Bodywork; and

8.4.3.2 terminate at a point more than 20mm outside the adjacent Bodywork.

8.4.4 The exhaust system must be a complete and continuous unit and exhaust gas may exit only at the end of the system.

8.4.5 Each Car must be fitted with effective mufflers which diminish the sound of the engine exhaust noise so that the maximum exhaust noise does not exceed 95dB(A) measured at 30 metres from the side of the Circuit by approved measuring equipment.

8.4.6 The exhaust primary headers on a Car must have a nominal thickness of at least 1.2mm (18 gauge).

H8.5 Inlet System

8.5.1 The inlet/induction system for pushrod engines is detailed in the relevant ESD.

8.5.2 The inlet /induction system for overhead cam engines is detailed in the relevant ESD.

8.5.3 The following applies to all inlet/induction systems:

8.5.3.1 The engine must be naturally aspirated; and

8.5.3.2 With the exception of ambient atmospheric air and the specified Control Fuel, no other substance may be added to the intake charge of the engine; and

8.5.3.3 the inlet must be of a fixed length; and

8.5.3.4 the throttle actuation for a Car must be exclusively by “butterfly.”

8.5.4 With the exception of the full throttle stop and idle adjuster, any device which allows the throttle to be artificially positioned by resisting the force of either the Driver’s foot or the throttle return mechanism is prohibited.

8.5.5 The throttle linkages must be fitted with suitable return springs which, in the event of a failure in the throttle linkage will return each throttle bank to the closed position.

8.5.6 Only one (1) fuel injector per cylinder is permitted which must only inject fuel directly into the side or the top of the manifold or trumpet.

8.5.7 Air for the engine must only be ducted from the large centre orifice in the front bumper bar.

H8.6 Engine Mounting

8.6.1 Engine mounting systems must only mount the engine to the removable front suspension cross member as defined in Rule H7.2.5.

8.6.2 The engine must be mounted in either of the following manners:

8.6.2.1 by the mounting points intended for that purpose on the approved cylinder block; or

8.6.2.2 by the sump with two (2) mounting points with a maximum of M10 thread located in the area between:

a) X= 0mm and X= -105mm; and

b) Y= ±105mm and Y= ±130mm.

H8.7 Engine Location

8.7.1 The engine must be positioned such that the point defined by the intersection of the bellhousing face and crankshaft centreline complies with the table below:

Datum	Location (mm)
X	Max 391.0
Y	0.0
Z	Min 133.0

8.7.2 The angle of the crankshaft centreline to the XY reference plane must be 1.8° ± 0.2° (where a positive angle denotes the front of the engine being higher).

H8.8 Engine Weight

8.8.1 The total minimum engine weight is 200kg dry.

8.8.1.1 Ballast to comply with the minimum weight and/or centre of gravity regulations must be affixed to the engine unless specifically authorised in writing by the CTM.

8.8.1.2 All engine ballast either affixed to the engine or Chassis as authorised by the CTM must have provision to be sealed. It is the Team’s responsibility to ensure the seals are fitted and intact during any Competition.

8.8.2 Any time the engine is weighed for compliance with Rule H8.8.1 it must be in the configuration as detailed in the ESD nominated for that Car.

8.8.3 Any connectors from the engine to the Car must be disconnected at the joint closest to the engine.

8.8.4 The wiring loom must be disconnected at the firewall.

H8.9 Flywheel

8.9.1 Each Car must be fitted with a steel flywheel.

8.9.2 The minimum weight of the flywheel including clutch cushioning buttons and crank trigger teeth will be 2.0kg.

8.9.3 The flywheel ring-gear must be an integral part of the flywheel.

8.9.4 The flywheel must mount directly to the crankshaft.

H8.10 Clutch

8.10.1 A Car must only be fitted with a clutch as designated in Schedule H1.3.

8.10.2 Each clutch listed in Schedule H1.3 will be identified by the means of detailed drawings, photographs, specifications and samples held by Supercars.

8.10.3 The clutch must comply with the following requirements:

8.10.3.1 mount directly to the flywheel; and

8.10.3.2 only have three (3) driven plates that transmit torque directly to the tailshaft; and

8.10.3.3 be controlled exclusively by the Driver's foot via an actuation system as part of the Control Pedal Box. Systems other than this may be approved by Supercars under exceptional circumstances; and

8.10.3.4 with the exception of the fixed pedal stops, any device which allows the clutch to be artificially positioned, or its speed of engagement to be varied by resisting the force of either the Driver's foot or the diaphragm spring is prohibited; and

8.10.3.5 the use of carbon fibre components within the clutch is permitted; and

8.10.3.6 the machining of surfaces for the purpose of achieving clutch plate pre-load is permitted.

H9. FUEL SYSTEM

H9.1 Fuel Tank Requirements - General

9.1.1 Each Car must be fitted with an ethanol compatible fuel tank conforming to the FIA FT3 specification as specified in Schedule D1 Table 6.

9.1.1.1 The fuel Cell is to be inspected in compliance with the following requirements:

a) Inspection of a fuel cell will become due on the FIA expiry date of 5 years after manufacture; and

b) Inspection of a fuel cell will be carried out by the Manufacturer every two (2) years; and

c) Maximum life of a fuel cell will be fifteen (15) years from the date of manufacture; and

d) A damaged fuel cell will not be repaired; and

e) Proof of inspection must be supplied to The CTM on request; and

f) Test details are to be recorded by the CTM in the Log Book change of details section.

9.1.2 All parts of the fuel system rearward of the front fire wall must comply with the Design and the provisions of the Rules.

9.1.3 The fuel cell and its housing must be:

9.1.3.1 Housing Part # V8SC-8-10035

9.1.3.2 Fuel Cell (Large bladder) Part # COF-8-10027A

9.1.3.3 Fill pipes/Flanges Part # COF-8-10020A,0023A and 0024A.

9.1.3.4 Restrictors Part # COF-8-10043A

9.1.4 The following modifications are permitted to the fuel system:

9.1.4.1 Fitment of up to five (5) lift pumps.

a) The clearance between the lowest part of all lift pump assemblies (pump and filter as specified in the Design) and the floor of the fuel bladder must not exceed 5mm.

b) The location of the 5th lift pump (if used) can be suited to a Circuit direction providing it is affixed in one of the locations provided by the Control bladder.

9.1.4.2 Fitment of an internal collector pot with three (3) high pressure pumps installed in accordance with the Design.

9.1.4.3 Amend the fuel hose layout detailed in the Design between the rear firewall and the fuel housing subject to the following conditions:

a) The specifications of all fittings, and hoses to suit, must be as detailed in COF-8-10012; and

b) Both fuel filters must be located on the right-hand side of the fuel tank housing; and

c) The fuel pressure regulator position must be above the fuel tank housing and under the sheet metal; and

d) It is permissible to use a dry break in the line between the fuel pressure regulator and the rear firewall; and

e) The rear firewall bulkhead fitting must be located on the right-hand side of the Car centreline; and

f) A maximum of two (2), fill/drain lines must be located through the right-hand side access panel of the fuel bladder. The fuel lines connected to these

inside the fuel bladder are optional.

9.1.4.4 Amend the fuel hose layout detailed in the Design between the rear firewall and the FIA Siamese fitting subject to the following conditions:

a) It is permitted to add a dry break fitting in the vent and filler line for the purpose of refuelling the Car.

H9.2 Fuel Pressure

9.2.1 At all times when the throttle position exceeds 94.9% the maximum permitted fuel pressure is 5.5 bar.

9.2.2 The fuel pressure regulator must be as per Schedule H1.6 and must be fitted in accordance with the Design.

H9.3 Fuel Lines

9.3.1 Any fuel line that carries fuel through the cockpit must:

9.3.1.1 be flexible; and

9.3.1.2 be Dash 8 in size; and

9.3.1.3 have threaded, crimped or self-sealing connectors; and

9.3.1.4 an outer braid resistant to abrasion and flame (will not sustain combustion); and

9.3.1.5 have minimum burst pressure of 70bar (1000 psi) measured at a minimum operating temperature of 135°C (250°F), excluding the connections to the injectors.

9.3.2 In addition to the provisions of Rule H9.3.1, the routing of the fuel lines through the cockpit must be located to the right-hand side of the Car centreline.

9.3.3 The fuel flow sensor if fitted must be above the fuel cell between the fuel pressure regulator and the bulkhead fitting for the engine feed.

H9.4 Capacity

9.4.1 The total capacity of the entire fuel system must not exceed the marked volume of the Supercars fuel tank capacity checking vessel which is approximately 111 litres.

9.4.2 The total capacity of the entire fuel system may be adjusted to ensure compliance with Rule H9.4.1.

9.4.2.1 It is permitted to externally access the fuel capacity adjustment.

9.4.2.2 Should externally adjusted fuel capacity be used it must:

a) be located in the access panel of the right-hand side; and

b) be cylindrical in shape with a maximum diameter of 60mm; and

c) be open to the atmosphere on its top surface; and

d) have the approval of the CTM.

H9.5 Fuel Tank Vent

9.5.1 The fuel tank must be vented externally of the Bodywork and include a suitable roll over valve.

H9.6 Fuel Fillers

9.6.1 No part of the FIA Siamese fitting assembly may be positioned further inboard than Y = ± 525mm.

9.6.2 The fuel and vent hoses in the boot must be 2.25" Premier hose as listed in Schedule H1.6.

9.6.2.1 The minimum total flexible length for the front hose is 460mm.

9.6.2.2 The minimum total flexible length for the rear hose is 610mm.

9.6.2.3 The front and rear hoses may include one (1) aluminium bend each.

9.6.2.4 The minimum length of hose engagement for each and every connection is 35mm.

9.6.3 Super2 Teams are required to do the following:

9.6.3.1 Remove the FIA Siamese fitting; and (A blanking plate will be approved)

9.6.3.2 Remove the fuel and vent Premier hose and aluminium bend; and

9.6.3.3 Cap the fuel and vent at the firewall. It is permitted to use a dry break on the vent and filler cap for the purpose of filling up the Car.

H9.7 Fuel Draining and Sampling

9.7.1 Competitors must ensure that a one litre (1.0L) sample of fuel may be taken from the Car at any time within 30 mins of the completion of any Session.

H10. DRIVETRAIN

H10.1 General

10.1.1 The list of components approved for use in the drivetrain are designated in Schedule H1.3.

10.1.1.1 Teams and/or suppliers are able to submit a written request to Supercars to place an alternate part onto the list. This request must be accompanied by detailed designs, cost and evidence of validation on a Car. Where evidence of validation is required, the CTM may permit the components to be used on a Car.

H10.2 Bell Housing Shaft

10.2.1 The Design details for the location and retention of the bearing necessary for the Bell Housing Shaft is contained in drawing V8SC-4-060-C.

H10.3 Transaxle

10.3.1 Each Car must only be fitted with an Albins ST6 transaxle.

10.3.2 All replacement parts will be required to be purchased through Albins and conform to the parts listed in the transaxle drawing titled ST6 which are held by the CTM.

10.3.3 Reverse gear must be able to be selected by the Driver seated normally in the Car with the safety harness correctly fastened.

10.3.4 It is permitted to substitute the Dash 4 feed line to the Ring and Pinion oiler with an alternate type of hose and fittings. Each fitting on the transaxle must remain as supplied by Albins and the alternate hose must remain Dash 4.

10.3.5 It is permitted to mount a permanent line with a dry break coupler at each end for the purpose of filling the transaxle with oil. The dry break at the transaxle end must replace an inspection plug. Except for within the cabin, the location of this line is free.

H10.4 Gear Lever

10.4.1 The gear lever must respect the design of the Albins drawing titled ‘Shift Assembly - 14471’.

10.4.2 It will be permitted to vary the ratio and overall length of the gear lever.

H10.5 Drop Gear Ratios

10.5.1 Only the drop gear ratios designated in the following table will be permitted to be used at the following Circuits unless otherwise advised by Supercars:

Circuit	Drop Gear Ratio	Teeth
Adelaide Parklands 2 Circuit	1.13	23/26
Albert Park Grand Prix Circuit	1.07	27/29
Hidden Valley Raceway	1.042	24/25
Mount Panorama Circuit	0.931	29/27
Newcastle East Street Circuit	1.13	23/26
Phillip Island Grand Prix Circuit	1.00	23/23
Pukekohe Park Raceway	1.07	27/29
Queensland Raceway	1.07	27/29
Sandown International Raceway	1.042	24/25
Surfers Paradise Street Circuit	1.07	27/29
Sydney Motorsport Park	1.00	23/23
Symmons Plains International Raceway	1.07	27/29
The Bend Motorsport Park	1.00	23/23
Townsville Street Circuit	1.07	27/29
Wanneroo Raceway	1.07	27/29
Winton Motor Raceway	1.13	23/26

H10.6 Transaxle Cooling

10.6.1 Each Car must be fitted with a transaxle cooling system which complies with the Design. The coolers can be either plumbed in series or plumbed in parallel.

10.6.2 It is permitted to add a screen to the front of each transaxle oil radiator and include a dry break fitting to aid in its removal.

10.6.3 It will be permitted to modify the transaxle oil radiator upper and lower mounting points to include anti vibration mounts. No such modification may change the angle or position of each cooler as specified by the Design.

H10.7 Gear Shift Cut

10.7.1 Parameters for gear shift cuts will be as follows:

10.7.1.1 Gear shift timing shift: minimum 80ms

10.7.1.2 Gear shift timing recover: minimum 15ms

10.7.1.3 Gear shift timing rearm: 750ms

10.7.1.4 Gear position sensor tolerance: 2%

H10.8 Tailshaft Hoops

10.8.1 The fitment of tailshaft hoops, as detailed in the Design, to the Car is optional.

H11. BRAKES

H11.1 General

11.1.1 Each Car must be fitted with a dual circuit braking system operated by the same pedal. The pedal will normally control braking to all four (4) wheels. In the case of leakage at any point of the brake system, its lines or any kind of failure in the brake system, the pedal must still control at least two (2) wheels.

11.1.2 Each Car must use the Control Parts designated in the table in Schedule H1.5.

11.1.3 It is permitted to:

11.1.3.1 use the brake pressure sensors to activate the brake lights; and

11.1.3.2 fit a brake light switch.

11.1.4 Only one (1) brake caliper and two (2) brake pads per wheel are permitted.

11.1.5 During a brake pad change, all displaced fluid must return to the master cylinder reservoir through the master cylinder.

11.1.6 Machining of the brake rotor surface to extend the usable life of the brake rotor is permitted provided that the disc groove design remains identical to the original brake rotor as supplied by the manufacturer.

11.1.7 The only modifications permitted to the Control calipers listed in Schedule H1.5 are:

11.1.7.1 Anti-knock back springs may be deleted; and

11.1.7.2 Drilling and tapping to fit the brake duct. Any such drilling must have the prior approval of the Control Part supplier and the CTM.

11.1.8 The control brake rotors and calipers will be identified by the means of detailed drawings, photographs and specifications retained by the CTM.

H11.2 Pedal Box

11.2.1 Pedal box mounting frame and bobbins must remain as specified in the following drawings or assemblies:

11.2.1.1 Option 1: V8SC-MSTR-24-01; and
COF-1-0012 x3; and
COF-1-0013 x1; and
COF-1-0014 x2.

11.2.1.2 Option 2: V8SC-MSTR-38-01.

11.2.2 Either Option 1 or Option 2 as described in Rule H11.2.1.1 or Rule H11.2.1.2 must only be used in their entirety with the exception of modification of the pedal rails COF–1–0012–0014 inclusive is permitted.

11.2.2.1 The permitted modification of these parts is limited to a maximum of 10mm of material removal from the top surface only.

11.2.2.2 The holes in the pedal rails COF–1–0012–0014 may be filled and rethreaded to allow finer adjustment of the Control pedal box.

11.2.3 The mounting location of the pedal box is free subject to the following:

11.2.3.1 The brake master cylinders must be able to achieve full stroke; and

11.2.3.2 Local modification of the firewall/tunnel sheet metal is permitted; and

11.2.3.3 No part of the pedal box is permitted inboard of Y= 125mm.

11.2.4 A Car specific adaptor plate is permitted for mounting the Control pedal box.

11.2.4.1 Each Team must ensure the design, material and fitment of this adaptor plate is

fit for purpose.

11.2.5 An alternate brake pedal, with part number AS 3118 is permitted.

11.2.6 The throttle pedal is free but must conform to any requirements in the relevant ESD.

11.2.6.1 Any throttle pedal damping system must obtain prior approval of the CTM.

11.2.7 The interface between the Driver's feet and the Control clutch, brake and throttle pedals (i.e., the pedal pads) is free.

H11.3 Brake Pads

11.3.1 At an Event, a Car must be fitted only with the brake pads designated in Schedule H1.5.

H11.4 Other Brake System Requirements

11.4.1 The fitment of a brake lock valve is optional, however the operation of the brake lock valve if located on the steering wheel must only be operated by an on/off switch. If a cable or hydraulic system is in operation it must only be located and operated by a lever located on either side of the Driver's seat.

11.4.2 The brake lock mechanism is only permitted to be used to stop the Car rolling from a standing start.

11.4.2.1 The brake lock mechanism if fitted, may be engaged during a pit stop for the sole purpose of stopping the rear wheels from turning during that stop.

11.4.2.2 Use of the brake lock mechanism in any situation/environment other than Rule H11.4.2 and Rule H11.4.2.1 is not permitted.

11.4.3 The braking system pressure in both front calipers must remain equal at all times.

11.4.4 The Control pedal box provides a system, which allows the brake balance of a Car to be adjusted manually by the Driver. The force required to make such an adjustment must be generated and controlled by the Driver, seated normally in the Car with the safety harness correctly fastened.

H11.5 Brake Ducting

11.5.1 It is permitted to fit a duct to each front upright which must comply with the following:

11.5.1.1 The intake for the front brake ducts must only be from the two (2) outer orifices in the front bumper bar.

11.5.1.2 Any such ducting must be within the area depicted in drawing SC-6-001 of the Design, with the exception of a duct to feed air into the caliper - any such duct must not protrude past the edge of the caliper.

11.5.1.3 It will be permitted to vary the air flow through the vanes of the rear brake rotor by blanking or partially blanking the inner circumference of the rear brake rotor.

11.5.1.4 No device other than a simple duct is permitted.

11.5.1.5 Only cooling by channeling ambient air to the brakes is permitted.

H12. STEERING

H12.1 General

12.1.1 The mechanical principal must be rack and pinion.

12.1.2 The components of the steering are free with the exception of the Control collapsible steering column as detailed in Schedule H1.2.

12.1.2.1 It is permitted to include more than one column clamp.

12.1.3 The secondary shaft of the Control collapsible steering column must pass through the firewall between the upper (V8SC-ROPS-34) and lower (V8SC-ROPS-01) members of the ROPS.

12.1.4 A structure to house the lower column bearing is permitted.

12.1.5 It is mandatory to utilise a quick release system for the steering wheel.

12.1.5.1 The type of quick release system is free.

12.1.5.2 The Control collapsible steering column bolt-on spline may be modified and/or replaced.

12.1.6 Power steering is permitted but must only be hydraulic in its operation and control.

12.1.7 No system which varies the output pressure and/or volume of the power steering hydraulic pump whilst the Car is in motion is permitted.

12.1.8 The power steering hydraulic pump must be directly driven by the engine.

12.1.9 It is permitted to fit a cooler to cool the power steering fluid.

12.1.10 The steering wheel is permitted to house switches and/or the display.

H13. WHEELS

H13.1 Control Wheel

13.1.1 A Car must only use the Supercars Control wheel as detailed in drawing Y063 81152-CL3.

13.1.2 All Cars are required to have a minimum of twelve (12) wheels, four (4) for permanently mounted wet control tyres and eight (8) for dry control tyres.

H13.2 Centre Lock Spindles and Wheel Nuts

13.2.1 Centre-lock spindles must be fitted with a safety clip/spring which must effectively prevent the wheel nut from coming loose at any time. This safety clip/spring must:

13.2.1.1 be engaged with the wheel nut at all times while a Car is on the Circuit; and

13.2.1.2 be replaced/reset after each wheel change; and

13.2.1.3 not protrude past the sidewall of the tyre in the horizontal plane in ready to race condition; and

13.2.1.4 The wheel nut breaking torque must be greater than 650Nm.

13.2.2 A Car that participates in a race at an Event must only be fitted with wheel nuts that conform entirely to the requirements of the Supercars wheel nut specification as contained in Schedule H2.

H13.3 Wheel Coatings

13.3.1 It will be permitted to paint and/or powder coat the Supercars Control wheel.

13.3.2 Any markings on the Supercars Control wheel must remain legible regardless of any coatings.

H14. ELECTRICAL SYSTEM

H14.1 General

14.1.1 Each Car must be wired only in accordance with the Supercars Control pinout document.

14.1.2 No part or component, however described, is permitted to influence the operation of the electrical system unless specifically permitted by the Rules.

14.1.3 The wiring loom must be visible along its entire length when mounted in a Car.

14.1.4 The wiring loom must be easily removable from a Car within a reasonable time period at the request of the CTM.

14.1.5 Any wiring that is required to go through the engine and/or rear firewalls, unless specified otherwise, must use a pin-to-pin connector or use a wiring grommet for sealing.

14.1.6 All Control wiring connectors must have a red heat shrink band within 100mm of the back of the connector for ease of identification.

14.1.7 Switches to operate the electrical system may be fitted to a Car. Where permitted by the Rules, these switches must be mounted in a location able to be operated by the Driver seated normally in the Car with the safety harness correctly fastened.

14.1.7.1 These switches may either be electromechanical or electronic in operation.

H14.2 Master Isolation Switch

14.2.1 A battery master isolation switch is mandatory and must:

14.2.1.1 disconnect the battery from the alternator and all electrical circuits; and

14.2.1.2 stop the engine; and

14.2.1.3 be spark proof; and

14.2.1.4 be able to be triggered from inside and outside a Car.

14.2.2 The external trigger must be:

14.2.2.1 situated near the lower part of the windscreen, on the Driver's side; and

14.2.2.2 marked by a red spark in a white edged blue triangle with a base of at least 120mm.

H14.3 Battery

14.3.1 The battery fitted to a Car must be either:

14.3.1.1 'Dry cell' lead acid technology; or

14.3.1.2 Lithium technology with the approval of the CTM.

14.3.2 Each battery must be mounted in the Car:

14.3.2.1 with the largest sides (in surface area) of the battery parallel to the YZ reference plane; and

14.3.2.2 with the longest edges of the battery horizontal; and

14.3.2.3 with the terminals positioned either at the top of the battery or on the side which faces the front of the Car; and

14.3.2.4 so that it sits against the front vertical face of V8SC-RPNL-01L; and

14.3.2.5 seated in a tray constructed of 2.0mm steel with three (3) vertical sides of minimum 20mm height; and

14.3.2.6 so that V8SC-RPNL-01L-01 forms a 4th vertical side; and

14.3.2.7 so that the tray is firmly fixed to the metal work of the Chassis it is in contact with.

14.3.3 Each battery is to be held to the Chassis by means of two (2) steel clamps or straps that must:
- 14.3.3.1 be electrically insulated; and
- 14.3.3.2 be a minimum of 3mm thick; and
- 14.3.3.3 be a minimum of 20mm wide; and
- 14.3.3.4 be attached to the Chassis with four (4) bolts/studs at least 10mm in diameter; and
- 14.3.3.5 have counter-plates of at least 3mm thick with a surface area of at least 20cm^2 beneath each bolt.

14.3.4 The electrical terminals need to be electrically insulated.

H14.4 Alternator

14.4.1 The alternator is free except that it must be mounted at the front of the engine, to either side, and be belt driven.

H14.5 Lights

14.5.1 The following lights must be from the production Automobile unless specified in the relevant VSD. These lights must be functional:
- 14.5.1.1 Headlamps either main beam or high beam or LED running lights; and
- 14.5.1.2 taillights; and
- 14.5.1.3 brake lights; and
- 14.5.1.4 rear turn indicators.

14.5.2 A high-level interior brake light must be fitted.

14.5.3 The globe specification for the lights listed in Rule H14.5.1 and Rule H14.5.2 are free with the prior approval of the CTM.

14.5.4 Headlamps, either main beam, high beam or LED running lights may be manually flashed by the Driver on the Circuit. They may only flash simultaneously and must be controlled only by the Driver.
- 14.5.4.1 It will be permitted to automatically flash the headlights in any pattern when the pit speed limiter is engaged.

14.5.5 Coloured or sign written headlights are permitted, except for any shade of the colour red, unless otherwise approved by the CTM.

14.5.6 For a Car with a freestanding headlight, it is permitted to seal the head light to the front bar. This sealing must be only where the headlight touches the Front bar and not be visible from the front. It is not permitted to externally tape the headlight to the bar.

H14.6 Starter Motor

14.6.1 One (1) starter motor is permitted and free except that it must:
- 14.6.1.1 be exclusively electrically powered; and
- 14.6.1.2 engage directly with the flywheel; and
- 14.6.1.3 be capable of starting the engine at any times.

14.6.2 The starter motor may be mounted in front of, or behind the flywheel.

14.6.3 At all times the Driver, seated normally in the Car with the safety harness correctly fastened, must be able to activate the starter motor without outside or external assistance.

H14.7 Fuel Pump Power Supply

14.7.1 Each Car must be fitted with a system that cuts off the power supply to all fuel pumps after a maximum of two (2) seconds absence of crankshaft rotation.

14.7.2 It is permitted to fit an override system for the sole purpose of pumping fuel out of the Car.

14.7.3 The voltage supplied to each fuel pump must not be intentionally varied by any means.

H14.8 Identification Lights

14.8.1 A Car must be fitted with high intensity identification lights as listed in Schedule H1.7. Other similar types of lights may be used with the prior approval of the CTM.

14.8.2 The identification lights will be required to be fitted so they both can be seen through the lower left-hand corner of the windscreen and the upper front corner of the rear passenger windows.

14.8.3 The Driver, seated normally in the Car with the safety harness correctly fastened, must be able to turn the identification lights on or off while driving.

H14.9 In Car Camera System

14.9.1 A Car must have the ability to be fitted with an in-Car camera system for use by the broadcaster.

14.9.2 The in-Car camera system must be located in the position detailed in the Design.

14.9.3 The in-Car camera system must be mounted securely and to the satisfaction of the CTM.

H15. ECU & DATA SYSTEMS

H15.1 Control Electrical Package

15.1.1 Except for that permitted in Rule H4.4.2, a Car must only be fitted with the Control electrical package components designated in the table in Schedule H1.7.

15.1.2 It is only permitted to use the quantity of the components listed in the table in Schedule H1.7 in a Car. If no quantity is listed the amount is free.

15.1.3 The components must be installed in a Car in the location listed in the following table:

Component	Location	Note
ADR (P12)	On the floor to the right side of the drivers seat rear lower mounting bolt.	
bf1 systems DigiTyre Lite TPMS ECU	Passenger Floor extending to left hand side Tunnel	If used
Crankcase Pressure Sensor	Passenger Floor or front firewall (cabin side)	
Engine Loom interface (P6,P7)	On the Firewall, LHS of the transmission tunnel	
Engine MAP Sensor	Passenger Floor or front firewall (cabin side)	
MoTeC ADL3 or C185	In front of the Driver above the steering column	If used
MoTeC Beacon Receiver	LH or RH side rear window attached to the ROPS	LH or RH side depending on the Circuit
MoTeC Display	On the steering wheel or in front of the Driver above the steering column	If used
MoTeC EDL3 or L180	Passenger Floor or Centre Console	If used
MoTeC LTCD	Passenger Floor	To CAN module
MoTeC M190 ECU	Passenger Floor	
MoTeC PDM32	Passenger Floor or Centre Console	
MoTeC SLM	On the steering wheel or in front of the Driver above the steering column	
MoTeC VCS	Passenger Floor	Only one system (VCS or V2) is to be installed at any time.
MoTeC VCS Camera	LH A pillar	
MoTeC V2	LH A pillar	
MSE/Tv comms (P13,P16<P17	At the bottom of the centre roll hoop on the passenger side	
Switch Panel (P11)	On top of transmission tunnel	

15.1.4 The Control condition, as set in the PDM configuration, must be such that the equipment linked to output 19 (TPMS, TV Cameras, VCS Cameras, CPS Lights) must be switched on and supply a 12-volt nominal at all times the master switch is on.

15.1.5 The GPS antenna must be positioned on the outer surface of the boot on the centreline and near the top edge closest to the rear windscreen. The GPS antenna should be affixed with a suitable double-sided tape.

15.1.6 A Car may be fitted with a Centre Console.

15.1.6.1 The location of this Centre Console must be such that Driver activated controls are easily accessible by the Driver seated normally in the Car with the safety harness correctly fastened.

15.1.6.2 The size of this Centre Console must be such that the wiring and electrical items housed within it and take up the majority of its volume.

15.1.7 The components which form part of the Control electrical package located on the passenger floor or the Centre Console must be anti-vibration mounted, either individually or collectively via a mounting tray.

H15.2 Engine Control

15.2.1 A Car must only be fitted with one (1) Control ECU at all times.

15.2.1.1 An ECU supplied by Supercars is allocated to a specific Car. It is not permitted to swap ECU's between Cars without written approval from the CTM.

15.2.2 The Control ECU must, at all times:

15.2.2.1 not be disassembled or modified in any way and seals and markings must remain intact and legible; and

15.2.2.2 run only the approved Super2 version firmware and software as loaded into the Control ECU when supplied by Supercars; and

15.2.2.3 exclusively control the spark and fuel settings of the engine; and

15.2.2.4 only be connected to the loom as specified in the Supercars Control wiring pinout document.

15.2.3 The Control ECU always remains the property of Supercars and must be returned to Supercars upon the request of the CTM.

15.2.4 The control ECU must only be used for Supercars authorised activities.

15.2.5 The ignition timing of any engine must not vary by more than six (6) degrees while the engine is above 4,000 rpm and above ten (10) percent throttle opening and while the Gear Shift State is not in "Shift" or "Recovery".

H15.3 Control Actuators and Sensors

15.3.1 The table in Schedule H1.8 lists the actuators and sensors permitted to be connected to the Control ECU and/or the data logger.

15.3.2 The component required to perform each function must be as designated in the table. If the table does not specify a component for a particular function, then that component is free so long as its sole purpose is to perform the required function.

15.3.3 The Jacobs Design 3 force sensor is a CAN based sensor and if used replaces the three (3) analogue G force sensors listed in the table in Schedule H1.8.

15.3.4 A sensor must be connected as denoted in the "Destination" column in the table in Schedule H1.8. Each sensor that connects to the Control ECU is a mandatory sensor. A sensor can be connected to the data logger using the method as stated in the "Destination" column.

15.3.5 Any sensor or actuator connected to the Control ECU or data logger must correctly represent the measured parameter.

15.3.6 All permitted sensors and actuators must remain identifiable and unmodified, except as required to solely facilitate mounting.

15.3.6.1 It is permitted to enlarge the mounting hole of a coil unit for the sole purpose of mounting using a proprietary anti-vibration mount.

15.3.7 All permitted sensors and actuators may be subjected to destructive testing.

15.3.8 The fuel pressure sensor must be located forward of the front firewall.

15.3.9 It is permitted to permanently attach wiring (pot) to the sensors listed in the table in Schedule H1.8. All wiring connectors must respect the requirements of the Control wiring pinout and connector specifications.

15.3.10 The CTM reserves the right to require a Team to fit additional sensors beyond those listed in the table in Schedule H1.8.

H15.4 Pit Lane Speed Limiter

15.4.1 The Control ECU has an in-built Pit Lane speed limiter ("Limiter"), which must only operate as follows:

15.4.1.1 must only be activated by a switch operated by the Driver.

15.4.1.2 The switch that is used to activate the Limiter must be connected exclusively to the Limiter switch input of the Control ECU and a fixed zero-volt reference.

15.4.2 The Limiter must be activated at all times while a Car is moving in Pit Lane.

NOTE: Regardless of the Limiter, each Team always remains responsible for ensuring that the Pit Lane speed limit is respected.

H15.5 Rain Light/Stall Light

15.5.1 The rain light/stall light must be fitted into the highest part of the rearward face of the boot lid so that its face is at 90 degrees to the road surface.

15.5.2 The stall light which is amber in colour must flash if a Car stalls on the grid.

H15.6 Electronic Data – Logging, Display & Telemetry

15.6.1 Each Car must only be fitted with one (1) control data logger.

15.6.2 Only the sensors indicated by a tick in the column A/EDL in the table in Schedule H1.8 are permitted to be connected to the data logging system.

15.6.3 It is permitted to log the following functions of the systems listed below:

System	Functionality permitted to be logged
Power Distribution Modules (see Note below)	Voltage, current draw temperature and diagnostics

NOTE: It is not permitted to use any of this information other than for diagnostic and protection functions.

15.6.4 The sensors listed in the table in Schedule H1.8 are in addition to any switches, carrier detect signal for telemetry or any sensors specifically required or approved by the CTM.

15.6.5 The data gathered from the sensors listed in Rule H15.3 and from the control ECU in the Teams logging section may then be recorded, displayed or transmitted by any means permitted by the Rules.

15.6.6 Data and system configurations may be requested by the CTM at any time and this request will not be subject to protest or Appeal.

15.6.6.1 If MoTeC Display Creator is being used, the display project must be retrievable from the device.

15.6.7 The table below lists the maximum permitted instances of the following functions available in the data logger.

2D tables – 8	Counters – 6
3D tables – 4	Logged channels – 600
Advanced math functions – 30 (or 1200 instructions)	Tell tales – 30
Alarms – 40	Timers – 6
Channel maths – 15	User conditions – 45

15.6.8 The table below lists the permitted channels that can be sent to the drivers display whilst the car is on the circuit.

Alarms	Identification Light 2
Brake Pressure	Indicators
Brake Bias Position	Lap Time
Dorian Timing System	Lap Time Delta
ECU Battery Voltage	Line Lock Engaged
Engine RPM	Pit Entry Lights
FARB Position	Pit Limiter
Flag Signals In-Car Driver Warning	Pit Stop time
Front Lock Lights	Rain Light
Fuel Last Lap	RARB Position
Fuel Used Total	Rear Brake Pressure (during Pit Stop)
Gear Position	Rear Lock Lights
Ground Speed	Shift Lights
Headlights	Switch Positions
Identification Light 1	Throttle Position

15.6.9 It will be permitted to display all sensors for the purpose of warm up and mechanical checks. The condition for controlling the display of these sensors must be submitted to the CTM for approval.

15.6.10 Alarms are free providing the alarm only uses measured sensors or switches as listed in Rule H15 for its function.

15.6.10.1 Tyre temperature information as received from the TPMS is permitted to be used in an alarm for the sole purpose of detecting when a TPMS sensor is malfunctioning. No alarm may represent the temperature of a tyre in any way.

15.6.11 The Table below lists the channels that are permitted to be used in on board math equations.

Anti-stall	Headlight switching
Brake Light switching	Helmet Fan
Brake Lock Lights (or buzzer) 1 level only	Line Lock condition (for Pit Lane/airjack)
Brake pressure	Line Lock conditions (for race start)
Brake Pressure vs Travel alarm	Pit Lane conditions and alarms
Car Stopped	Pit Lane Entry lights /buzzer (1 level only)
Carrier Detect	Roll bar position
Cool Suit pump control	Roll Bar sensor velocity
Coolsuit alarms/ controls	Roll Bar solenoid control
Damper Alarm (max travel/cross weight) for damaged suspension	Shift Lights
Damper Position zero/offset	Starter conditions
Downshift conditions	Steered Angle
Driver Drink switching	Telemetry delay timers
Driver Mark	Transaxle Fan control
Engine RPM (recalculation of shifts lights for wet tyre)	Tyre Pressure alarms
Flag System conditions (Supercars mandated)	Wheel Speed sensor failure
Fuel Pump Alarms	Wiper switching
Fuel Used calculations (only three for driver display)	

15.6.12 Log rates are free except for those channels listed in the table below:

Front Wheel Speed – 50Hz	Rear Wheel Speed – 10Hz
G Lat – 10Hz	Suspension or Damper Position – 25Hz
G Long – 10Hz	Steered Angle – 20Hz

15.6.12.1 Data and system configurations may be requested by the CTM at any time and this request will not be subject to protest or Appeal.

15.6.12.2 If MoTeC Display Creator is being used, the display project must be retrievable from the device.

H15.7 Signals to/from Cars

15.7.1 At any time only the following signals may be sent to or from a Car:

Signal	Send to Car	Send from Car
Any signal exclusively for television	Yes	Yes
Driver voice communication	Yes	Yes
Driver visual communication	Yes	Yes
Lap Beacon	Yes	No
Telemetry (transmission of data)	No	Yes

15.7.2 Channels Listed in Schedule H11. are the only Channels allowed to be transmitted via Telemetry.

H16. CAR EQUIPMENT

H16.1 Airjack

16.1.1 Each Car must use the Control Parts designated in the table in Schedule H1.1.

16.1.2 It is permitted to use a spacer of free design the sole purpose of which is to aid in the securing of the airjack into the Chassis.

16.1.3 It is permitted to replace the airjack lower nut with a nut of an alternate design provided that its sole purpose is to secure the airjack and/or protect the airjack thread.

H16.2 Driver Cooling System

16.2.1 Any Driver cooling systems that contain a cooling medium in race ready condition must be:

16.2.1.1 mounted within the cockpit utilising the mounting points designated in the Design for the passenger seat; and

16.2.1.2 constructed in a manner which to the satisfaction of the CTM, has been designed to ensure the safe containment of the whole system during reasonably foreseeable loading condition.

SCHEDULE H1. CONTROL PARTS

The following list of Control Parts are as defined in the Rules.

1. Chassis

Part Name	Part No or Drawing No	Manufacturer	Supplier
Airjacks	CP3985 230EV CP3945-230EV	AP Racing	Competition Friction
ROPS*	SC Design	Team	
Machined Parts	SC Design	Team	
Sheet Metal	SC Design	Team	

***NOTE:** It is permitted to alter the angle of the steering column mount bar V8SC-SM-02-A from 13 degrees stipulated in the Design to a minimum of 9 degrees.
The steering column mount support tube V8SC-SM-01-A may be extended or trimmed to suit the angle of the steering column mount bar.

2. Suspension and Steering

Part Name	Part No or Drawing No	Manufacturer	Supplier
Dampers	TTX40 (ST design)	Ohlins	SCP
Dampers	TTX40 MkII (ST design)	Ohlins	SCP
Damper Piston	06113-01 MkI & MkII	Ohlins	SCP
Damper Piston	06128-02 Blow off MkII w Bleed	Ohlins	SCP
Damper Piston	06234-01 HF MkII	Ohlins	SCP
Damper Piston	06234-10 Blow off MkII	Ohlins	SCP
Damper Piston	06234-11 HF+ Blow off.MkII	Ohlins	SCP
Dampers	Formula Matrix	Sachs**	Triple Eight RE
Dampers	Formula Matrix TRD	Sachs**	Triple Eight RE
Damper Piston	001706-999015 Dig/Dig	Sachs	Triple Eight RE
Damper Piston	001706-999016 Lin/Dig	Sachs	Triple Eight RE
Damper Piston	001706-999027 Lin/Dig	Sachs	Triple Eight RE
Damper Piston	001706-999056 Lin/Lin	Sachs	Triple Eight RE
Damper Piston	001706-999057 Lin/Lin w B	Sachs	Triple Eight RE
Damper Piston	001706-999073 Blow Off	Sachs	Triple Eight RE
Dampers	S002-010 F/R	Supashock	Supashock
Damper Piston	S002-001-226-0 Lin/Lin	Supashock	Supashock
Damper Piston	S002-001-225-0 Lin/Dig	Supashock	Supashock
Damper Piston	S002-001-224-0 Dig/Dig	Supashock	Supashock
Steering Column Clamp	SBC 80-1 SBC 80-3*	Woodward	Racer Industries
Steering Firewall Bearing	SBC 6-2	Woodward	Racer Industries
Steering Mounting Brackets	MB178-40	Woodward	Racer Industries
Steering Safety Column	SCA700- Series	Woodward	Racer Industries
Suspension Tripod	AR-3029	Modena Engineering	Modena Engineering

NOTE: * For the SBC 80 – 3 if other than the top mounting hole is used, the material containing the unused mounting holes may be removed.

** Teams using the Formula Matrix must utilise the adjuster block with Part No. 001706999019 or Part No. 001706000309.

3. Transaxle and Drivetrain

Part Name	Part No or Drawing No	Manufacturer	Supplier
Axle	V8SC-4-065	Race Products Modena Engineering	Race Products Modena Engineering
Axle Thrust Bearing	V8SC-4-067	Race Products Modena Engineering	Race Products Modena Engineering
Bellhousing Input Shaft	V8SC-4-066	Albins	Albins
Centre Bearing	61908 Series 61909 Series	SKF	
Centre Bearing	6908 Series	NSK	
Centre Bearing Adaptor	14800	Albins	Albins
Centre Bearing Adaptor	AG-3168/69/70	Triple Eight RE	Triple Eight RE
Centre Bearing Adaptor**	GRM-D-236-00	GRM	GRM
Centre Bearing Mount*	V8SC-4-058	Teams	
Centre Bearing Mount	AG-3196 & AG-3315	Triple Eight RE	Triple Eight RE
Centre Bearing mount	GRM-C-410-01	GRM	GRM
Clutch	CP8503	AP Racing	Competition Friction
Clutch	CP8033	AP Racing	Competition Friction
Clutch	OT II 7.25	Tilton	Racer Industries
Clutch	KKC 1803	Alcon	Namsport
Clutch	KKC 1843	Alcon	Namsport
Clutch	883082001376	Sachs	Triple Eight RE
Clutch	883082002297	Sachs	Triple Eight RE
Coupler	21138	Albins	Albins
Propshaft	19677 28067	Albins	Albins
Propshaft	AG-3031-A	Triple Eight RE	Triple Eight RE
Transaxle	Albins ST6	Albins	Albins
Transaxle Cooler	V8SC-7-001 (28028358)	Team	

NOTE: * This is supplied as a Design.

** This utilises part of the Albins bearing adaptor 14800.

4. Wheels and Tyres

Part Name	Part No or Drawing No	Manufacturer	Supplier
18” V8 Supercar Wheel	Y063 81152-CL3	Rimstock	Racer Industries
18” Tyre – Hard		Dunlop	Dunlop
18” Tyre – Wet		Dunlop	Dunlop
Wheel Nut	V8SC-5-001	Team	

5. Brake System

Part Name	Part No or Drawing No	Manufacturer	Supplier
Brake Caliper-Front Right	CP6268-2S7L:V8SC	AP Racing	Competition Friction
Brake Caliper-Front Left	CP6268-3S7L:V8SC	AP Racing	Competition Friction
Brake Caliper-Rear Right	CP6267-2S0L:V8SC	AP Racing	Competition Friction
Brake Caliper-Rear Left	CP6267-3S0L:V8SC	AP Racing	Competition Friction
Brake Disc-Front Right	CP8184-108GC:V8SC	AP Racing	Competition Friction
Brake Disc-Front Left	CP8184-109GC:V8SC	AP Racing	Competition Friction
Brake Disc-Rear Right	CP6372-102GE:V8SC	AP Racing	Competition Friction
Brake Disc-Rear Left	CP6372-103GE:V8SC	AP Racing	Competition Friction
Brake Mounting Bell Rear	CP2494-2547:V8SC	AP Racing	Competition Friction
Brake Bobbins	CP4135-107FR	AP Racing	Competition Friction
Brake Pad Front	CP6268D62	AP Racing	Competition Friction
Brake Pad Rear	CP6267D50	AP Racing	Competition Friction
Dry Brake Bleed Nipple (opt)	CP6300-21	AP Racing	AP Racing
Front Pad Option 1**	PFC01	PFC	Competition Friction
Front Pad Option 2**	Project Mu H16-03	Project Mu	Competition Friction
Pedal Box	AS-3056	Triple Eight RE	Triple Eight RE
Pedal Box-Alternate pedal	AS 3112	Triple Eight RE	Triple Eight RE
Master Cylinder- Front	MAR 5200 Series*	Alcon	Namsport
	CP7851 Series*	AP Racing	Competition Friction
Master Cylinder-Rear	MAR 5200 Series*	Alcon	Namsport
	CP7851 Series*	AP Racing	Competition Friction
Rear Pad Option 1**	PFC97	PFC	Competition Friction
Rear Pad Option 2**	Pagid RS4-4	Pagid	Competition Friction

NOTE: * Approved bore sizes only.

** It will be only permitted to modify the brake pad backing plate for ease of extraction and replacement. Care should be taken not to remove the Supercars identification.

6. Fuel System

Part Name	Part No or Drawing No	Manufacturer	Supplier
Clamp Ring-LH	V8SC-8-10040	Premier	Racer Industries
Clamp Ring-RH	V8SC-8-10039	Premier	Racer Industries
Fuel Bladder Housing	V8SC-8-10030	Premier	Racer Industries
Fuel Bladder Housing-Top Plate	V8SC-8-10031	Premier	Racer Industries
Fuel System	V8SC CAD	Team	
Fuel Housing Assembly	V8SC-8-10035	Premier	Racer Industries
Fuel Filler Pipes & Flanges	COF-8-10020C COF-8-10023D COF-8-10024C	Team	
Fuel & Vent Hoses	2.25” Bladder Material Hose	Premier	Racer Industries
Fuel Filter	F5003 WZ373 Z5000RP 230606ERL & 230605ERL 601-010-06-08 602-010-06-08	Bosch Wesfill / Cooper Ryco Earls Speedflow Speedflow	
Fuel Regulator	KFI 12-106 1729	Kinsler Edelbrock	

7. Electrical System

Part Name	Part No	Manufacturer	Supplier	Qty.
Accident Data Recorder	18116V	MoTeC	MoTeC	1
Battery	B128L MR-40	Braille MEGALife	Braille MEGALife	1
Beacon Receiver	15512V	MoTeC	MoTeC	1
Data Logger*	18015V – Advanced Dash Logger 3 18016V – Enclosed Dash Logger 3 18033V & 18063V – C185 Colour Display Logger (max 250MB logging memory) 18035V – C187 Colour Display Logger (max 250MB logging memory) 18040V & 18047V – L180 Enclosed Logger (max 250MB logging memory)	MoTeC	MoTeC	1 Or 1 Or 1 Or 1 Or 1
Display*	18015V – Advanced Data Logger 3 18027V – D153 Colour Mini Display 18028V – D175 Colour Display Module 18033V – C185 Colour Display Logger 18035V – C187 Colour Display Logger	MoTeC	MoTeC	1 Or 1 Or 1 Or 1 Or 1
ECU	13190V – M190 Supercars ECU	MoTeC	Supercars	1
GPS Receiver	41304V – GPS 10Hz	MoTeC	MoTeC	1
LTCD	61301V – Bosch 61305V - NTK	MoTeC	MoTeC	1 Or 1
Membrane Switch Panel	41401 41400 MSP v200	MoTeC MoTeC OBR	MoTeC MoTeC OBR	1 Or 1 Or 1
Power Distribution Module	14100V – PDM32	MoTeC	MoTeC	1
Shift Light Module	18120V - SLM	MoTeC	MoTeC	2
STC	61125	MoTeC	MoTeC	1
Timing Transponder	TX16K Multi DDL Dorian Data-1	Dorian	Supercars	1 or 1
TPMS ECU **	DigiTyre Lite TPMS ECU 1SYSTEM TPMS ECU TPMS-WR21 Wheel Receiver	bf1systems bf1systems Texense	bf1systems bf1systems Texense	1 Or 4 Or 4
TPMS LF Trigger **	DigiTyre LF Trigger	bf1systems	bf1systems	4
TPMS Antenna **	DigiTyre Lite Antenna	bf1systems	bf1systems	2
TPMS Wheel Sensor **	DigiTyre 14.7mbar/bit TPMS Wheel Sensor 1SYSTEM TPMS Wheel Sensor TPMS-RS21 Sensor	bf1systems bf1systems Texense	bf1systems Texense	4 Or 4 Or 4
Video Capture System	18207V – HD VCS 18210V – V2	MoTeC	MoTeC	1 Or 1
Wiring Pinout Document	Control Wiring Pinout	Supercars		

NOTE: * If the same model is used as a logger and a display, a second logger or display is not permitted.

** The use of a Tyre Pressure Monitoring System (TPMS) is optional. Only one system is permitted.

8. Sensors and Actuators

Sensor	Qty	Destination	Manufacturer or Restrictions	Part #
Acceleration - Lateral	1	A/EDL		
Acceleration - Longitudinal	1	A/EDL		
Acceleration - Vertical	1	A/EDL		
Coils	8	ECU	GM	12573190
			GM	12611424
			Delphi	A1569060400 (Mercedes-Benz) GN10165-11B1
			Denso	8687939 (Volvo)
			Hanshan	AIC-2402N
Fuel Flow	1	A/EDL	Floscan	200 series
			Electronic International	Red Cube: FT-60
GPS - Data	1	ECU A/EDL (via STC)	Motec	41304V
Gyro/Compass/G force		A/EDL	Jacobs Design	3 Force
Injectors	8	ECU	Bosch	0 280 150 351 / 0 280 150 363
			Siemens	F111405
			Bosch EV14	B280 436 748-01 (BOSCH)
			Bosch	280158040 (Volvo)
Level - Engine Coolant	1	A/EDL		
Level - Fuel	1	A/EDL	Gill	1612-00-215-275 1612-00-017-275 4223-00-2SN-275
Load - Gear Lever	1	ECU A/EDL via CAN	Motorsport Systems	MS-GLC1
Motor - Drive by Wire Throttle	ESD	ECU		
Position - Anti-Roll Bar	2	A/EDL		
Position - Brake Balance Bar	1	A/EDL		
Position - Camshaft	1	ECU	Honeywell	2AV Series
			Honeywell	4AV Series
			Siemens	HKZ101 / HKZ121
			Nanjing Huamin Electronics	HME101 / HME301
			Bosch	0 232 103 079 0 232 103 111
			Bosch	PG3.8 A0009050143 (AMG)
			Omron	E2E-X1R5E1
			Omron	E2E-X1R5C18
			Motec	59110
			Honeywell	IGT101DC or replica

Sensor	Qty	Destination	Manufacturer or Restrictions	Part #
			Denso	30713370 (Volvo)
Position – Crankshaft *(con't)*	1	ECU	AB Electronic	A6429050000 (Mercedes-Benz)
			Honeywell	IGT101DC
Position – Crankshaft *(con't)*	1	ECU	Delco	10456555
			Denso	31331754 (Volvo)
			Motec	59110
Position - Gear	1	ECU A/EDL via CAN		
Position - Throttle	1	ECU A/EDL via CAN	Novatechnic	RSC 2800-600 Series
			Penny & Giles	SRH 280P
			Penny & Giles	D46523/MK
			Novatechnic	SP2841S0002/SP2 8411002001
			Variohm	Euro X 28
Pressure - Brake Line	2	ECU A/EDL via CAN		
Pressure - Crankcase	1	ECU A/EDL via CAN		
Pressure - Engine Coolant	1	ECU A/EDL via CAN		
Pressure - Engine Oil	1	ECU A/EDL via CAN		
Pressure - Fuel	1	ECU A/EDL via CAN	Bosch DS-K-TF	A1561535028 (Mercedes-Benz)
			Druck	PWP4311
			Honeywell	MLH 100 - 250psi
			Texas Instruments	C63cp022 100 - 250psi
			McLaren	0030330052002 - 10 Bar
Pressure - Manifold Air	1	ECU A/EDL via CAN	Delphi	12219931
			Fuji	A0051535028 (Mercedes-Benz)
Pressure - Power Steering	1	ECU A/EDL via CAN		
Pressure - Transmission	1	A/EDL		
Pump - Main Fuel	3	ECU	Bosch	0 580 254 979
Pump - Lift Fuel	5	ECU	Pierburg	7.21088.62
Rain Light	1-2	ECU	GRME	CK - LR - DC

Ratio – Oxygen	2	ECU via LTCD	Bosch	LSU 4.9
			Mercedes-Benz	A0035427118 (Mercedes-Benz)
	2	A/EDL via LTCD	NTK	LZA08
Speed - Front Wheel	2	ECU A/EDL via CAN		
Speed - Rear Wheel	1	ECU		
Temp - Cockpit	0-2	A/EDL		
Temp - Driver Cooling System	0-2	A/EDL		
Temp - Engine Air	1	ECU A/EDL via CAN	Keystone Thermetrics	2503 7388 2503 7334
			Delco	2503 7388
			Siemens NTC	A6511530028 (Mercedes-Benz)
			Bosch	0 280 130 039 0 280 130 085
Temp - Engine Coolant	1	ECU A/EDL via CAN	Bosch	0 280 130 026 0 280 130 023
			BERU NTC	A0051532328 (Mercedes-Benz)
			Denso	30646713 (Volvo)
Temp - Engine Oil	1	ECU A/EDL via CAN		
Temp - Fuel	1	ECU A/EDL via CAN		
Temp – Power Steering Oil	1	A/EDL		
Temp - Transmission Oil	1	ECU A/EDL via CAN	Bosch	0 280 130 026
Travel - Brake Master Cylinder	2	A/EDL	External Linear	
Travel - Steering	1	ECU A/EDL via CAN		
Travel - Suspension	4	A/EDL	Linear or rotary only	
TPMS – Wheel Speed Trigger's	4	Not applicable	bf1systems	DigiTyre LF Trigger
TPMS- Antenna	2	Not applicable	bf1systems	DigiTyre Lite Antenna
TPMS- Tyre Pressure Sensors	4	ECU via CAN* A/EDL via CAN	bf1systems	DigiTyre 14.7mbar/bit Wheel Sensor
				1SYSTEM TPMS Wheel Sensor
			Texense	TPMS-RS21 Sensor
TPMS - Control Wiring Pinout				Refer to Supercars TD #1 on portal

* Applicable to the bf1systems DigiTyre TPMS only.

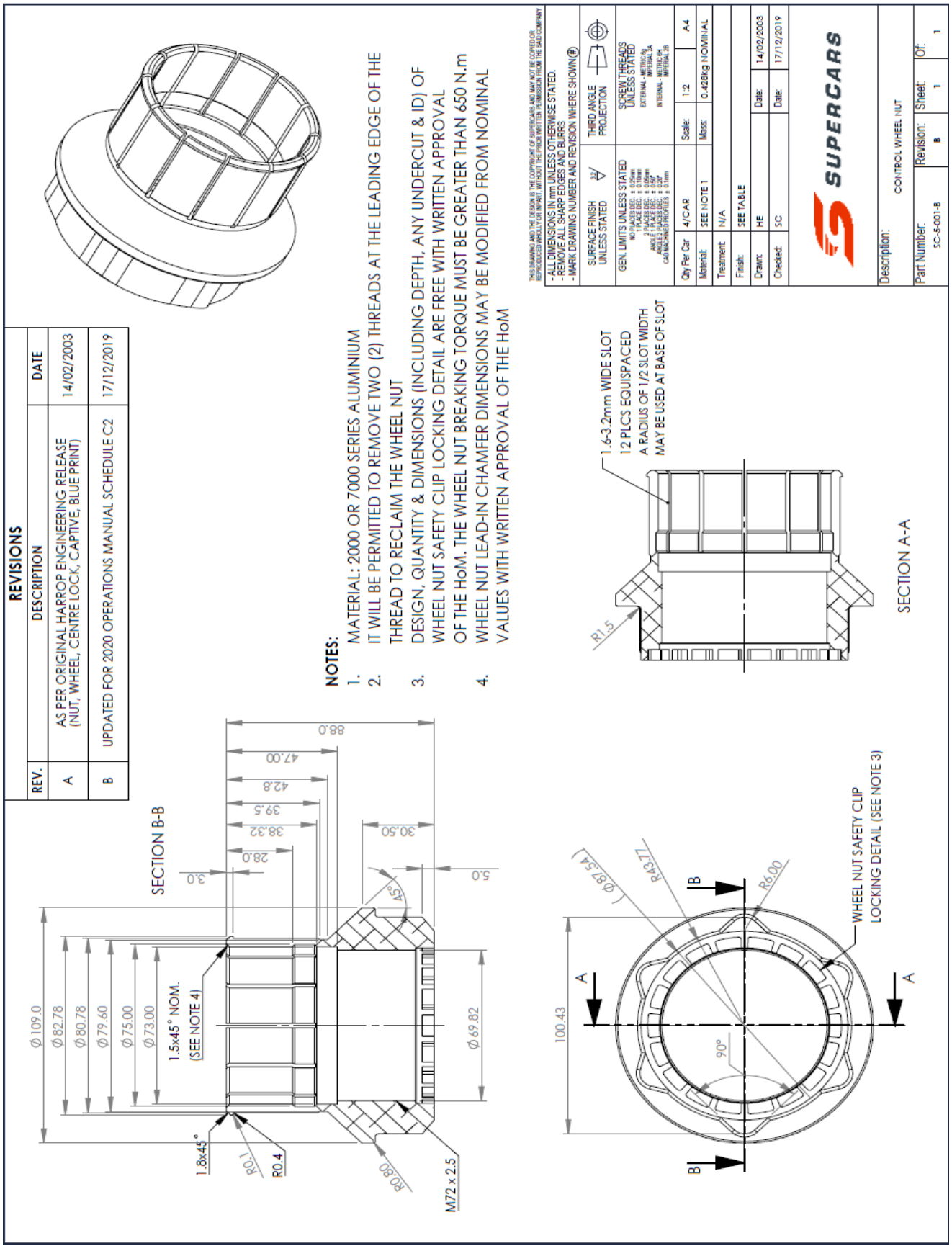
9. Bodywork and General

Part Name	Part No or Drawing No	Manufacturer	Supplier
Driver Side Impact Protection	V8SC-11-022 (Schedule H3)	Team	
Driver Door Skin Layup	V8SC-10-007 (Schedule H4)	Team	
Fire Extinguisher System	104-225-002 105-001-004	Lifeline	Racer Industries
Front Door Window	V8SC-10-006 (Schedule H7)	Team	
Passenger, Rear Door Skin Layup & Front Guard Layup	V8SC-10-005 (Schedule H5)	Team	
Rear Diffuser Absorber	V8SC-11-020	Cellbond CG Composites	Cellbond CG Composites
Rear Quarter Panel Layup	V8SC-10-003 (Schedule H6)	Team	

10. Composite Components

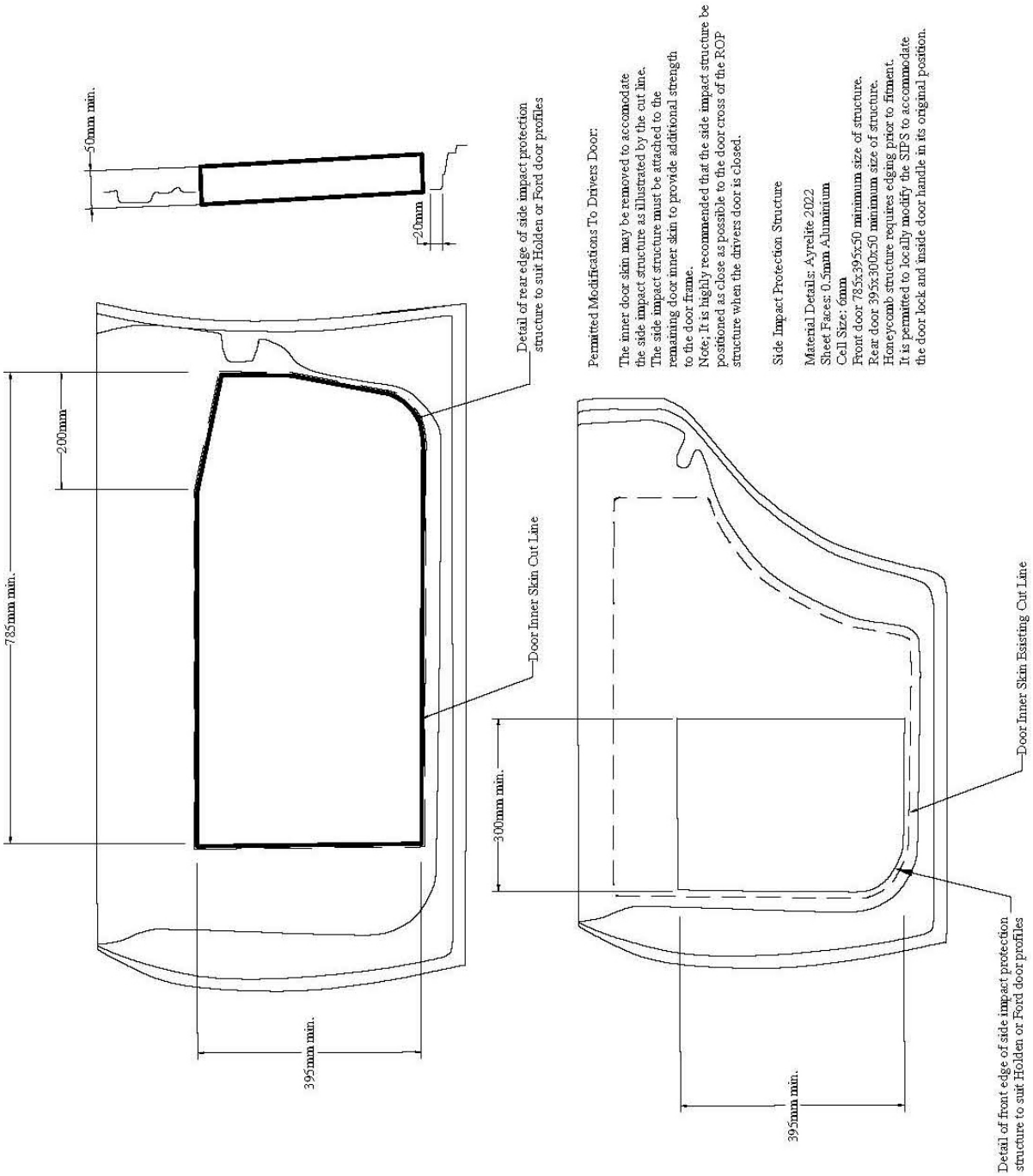
Air conditioner mounts and covers	Engine drive belt covers
Attachments to the ROPS for anti-side intrusion purposes	Engine management system mounting plate
Bsi boot lid camera bracketry	External fresh air duct
bf1systems TPMS trigger cover plate	False floor (driver comfort)
Centre Console	Foot rest
Coil mounts	Fuel Injection trumpets
Cooling ducts	Fuel tank covers (LHS & RHS)
Dashboard filler and airbag cover	Identification light mount(s)
Data acquisition mounting plate	Instrument fascia
Door trims	Left hand mirror cover (where permitted)
Driver cooling systems	Passenger floor (for Event rides only)
Driver Drink holder	Rain light mount
Dry break fuel fitting to Bodywork adaptor	Rear window brake light housing
Dry break fuel receiver/vent covers	Steering wheel switch mounts
Electrical isolation switch mount	Wheel arch infill panel
Engine air box and inlet air ducting	Window bracing
Engine component heat shields	

SCHEDULE H2. CONTROL WHEEL NUT



NOTE: It will be permitted to remove 2 threads at the leading edge of the thread to reclaim the wheel nut.

SCHEDULE H3. SIDE IMPACT PROTECTION STRUCTURE



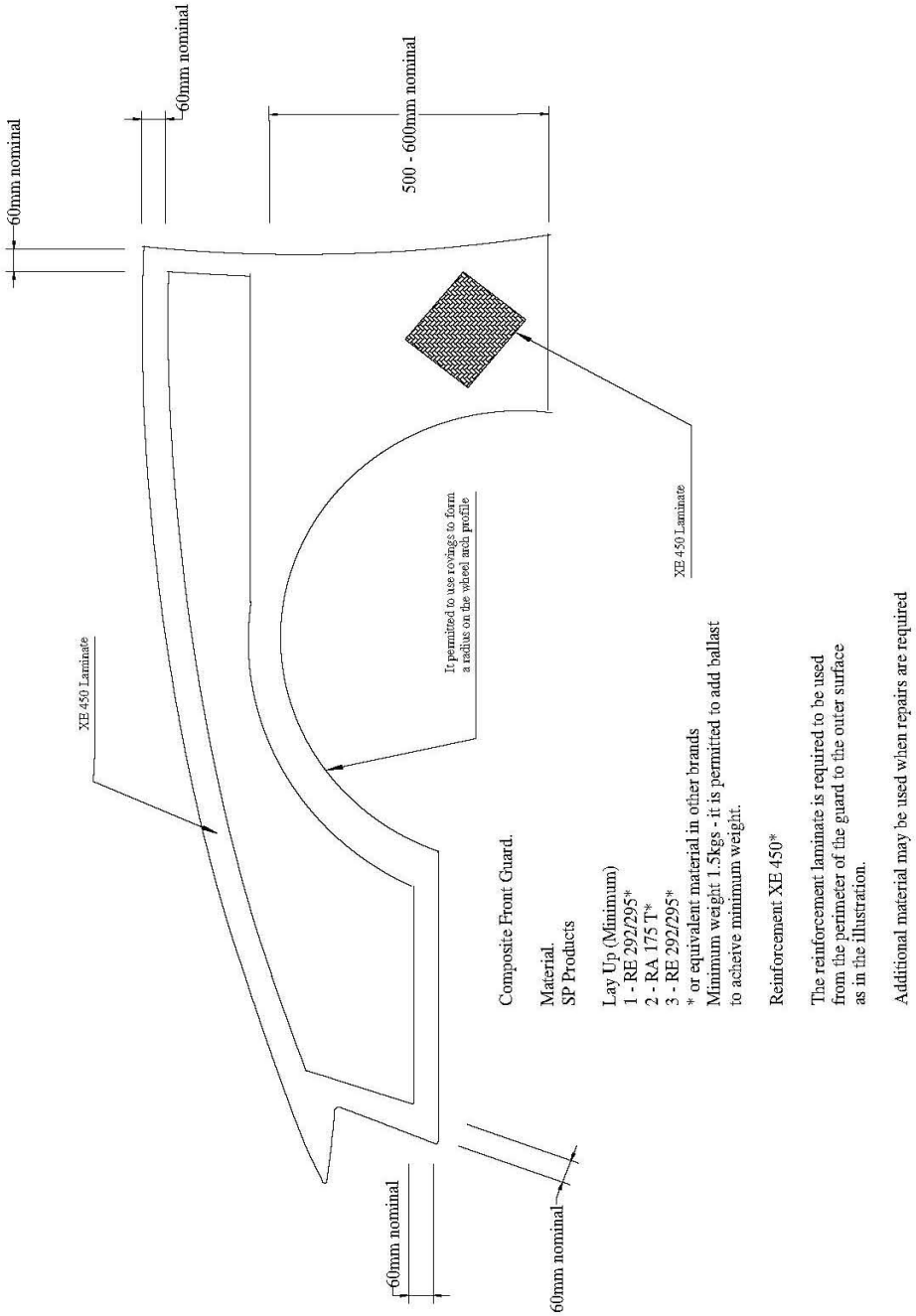
SCHEDULE H4. DRIVER DOOR SKIN LAYUP

Composite Driver Door Skin

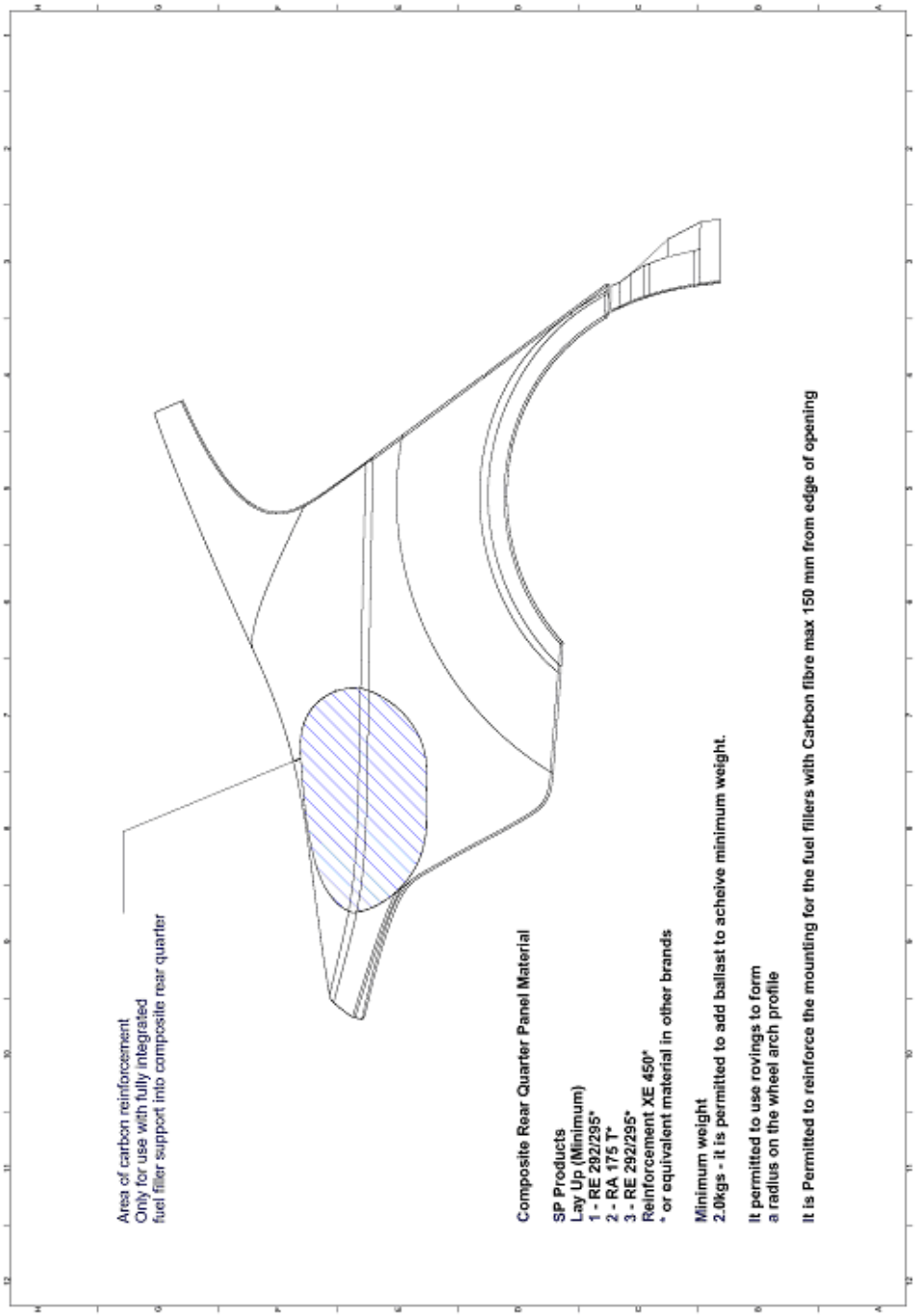
Minimum Layup

1-	Twaron T750/2 750gsm	Plain weave 0/90deg	0.65mm thick	all over
2-	Twaron T750/2 750gsm	Plain weave 45/45deg	0.65mm thick	partial (central area)
3-	Twaron T750/2 750gsm	Plain weave 0/90deg	0.65mm thick	all over

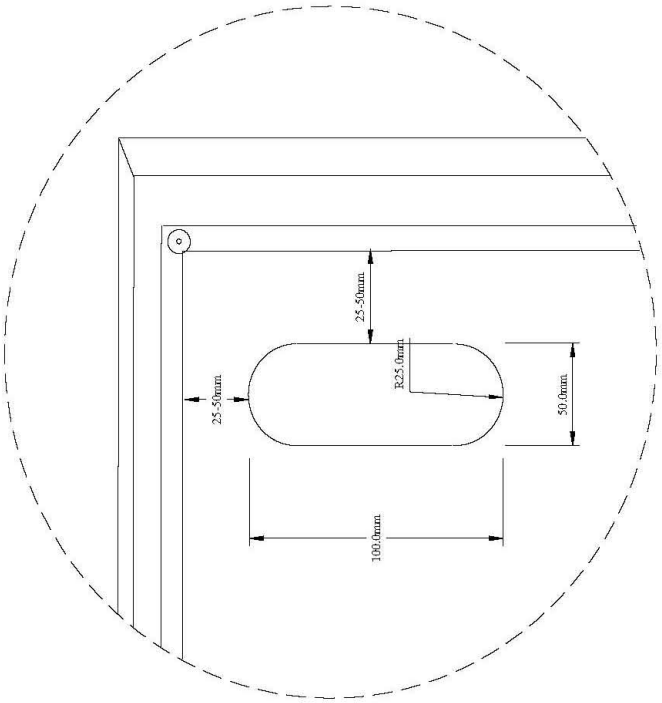
SCHEDULE H5. FRONT GUARD, LEFT FRONT DOOR SKIN, REAR DOOR SKIN LAYUP

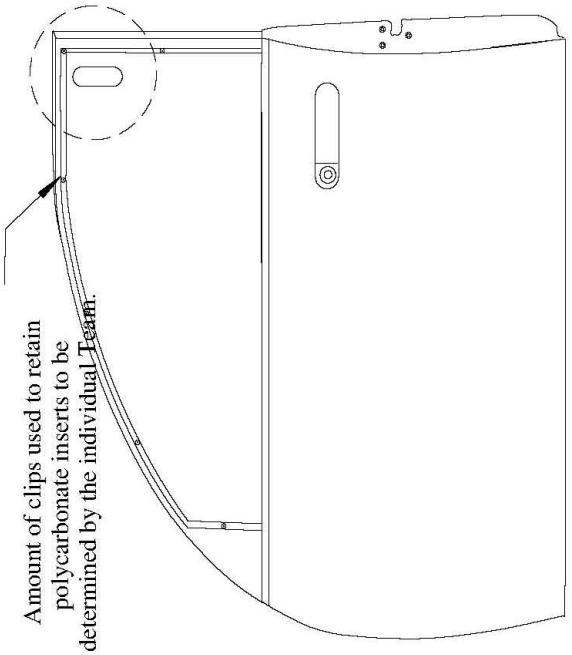


SCHEDULE H6. REAR QUARTER PANEL LAYUP



SCHEDULE H7. FRONT DOOR WINDOW





Retention Clip Detail
Manufacturer - Fastex Fasteners
Part No.266-0019

Amount of clips used to retain polycarbonate inserts to be determined by the individual Team.

SCHEDULE H8. NOT IN USE

SCHEDULE H9. LEG BRACE APPROVED MATERIAL LIST

- 80 GSM High Modulus Carbon
- 200 GSM 2x2 Carbon
- 180 GSM Hybrid Carbon / Kevlar
- 210 GSM Hybrid Carbon / Kevlar
- Core 3mm Rohacell
- Pet Core 6mm
- Using flame retardant Epoxy system

The impact foam used must be:

- BSCI EIS W18 protected with a layer of Carbon-x fire protective cloth.

SCHEDULE H10. NOT IN USE

SCHEDULE H11. ALLOWED TELEMETRY CHANNELS

Channel Name (Alias)	Units		Transmit Rate (Hz)Max
ADR Status			1
Air Jack Switch Timer			10
Alarms			10
Airbox Pressure	Millibar	mbar	50
Airbox Temperature	Celsius	°C	20
Battery Voltage ‼	Volt	V	10
Battery Voltage Data Logger	Volt	V	10
Bit Combine 1			10
Bit Combine 2			10
Bit Combine 3			10
Bit Combine 4			10
Bit Combine PDM to L180			10
BR2 Lap Beacon Number			20
Brake MC Travel Front	Millimetre	mm	20
Brake MC Travel Rear	Millimetre	mm	20
Brake Pressure Front	PSI	psi	50
Brake Pressure Rear	PSI	psi	50
Cabin Temp*	Celsius	°C	1
CAN 1 Bus Utilization			10
CAN 1 Receive Error Count			10
CAN 1 Transmit Error Count			10
CAN 2 Bus Utilization			10
CAN 2 Receive Error Count			10
CAN 2 Transmit Error Count			10
CAN 3 Bus Utilization			10
CAN 3 Receive Error Count			10
CAN 3 Transmit Error Count			10
Car Number			1
Co-driver Light			1
Coolant Temp Run Limit 1 Time	Second	s	1
Coolant Temp Run Limit 2 Time	Second	s	1
Coolant Temp Running Max	Celsius	°C	1
Corrected Lap Distance	metre	m	10
Corrected Lap Distance State			10
Data Logger Supply 5V	Volt	V	10
Data Logger Supply 8V	Volt	V	10
Driver Cool Suit	Celsius	°C	1

Channel Name (Alias)	Units		Transmit Rate (Hz)Max
Driver Fuel Mix Aim Trim Sw			5
Driver Pit Switch			20
Driver Trim Switch Keypad			5
Drop Gear Value			1
ECU Sensor 5V0 A Volts	Volt	V	10
ECU Sensor 5V0 B Volts	Volt	V	10
ECU Sensor 5V0 C Volts	Volt	V	10
Eng Oil Temp Run Limit Time 1	Second	s	1
Eng Oil Temp Run Limit Time 2	Second	s	1
Eng Oil Temp Running Enable			1
Eng Oil Temp Running Max	Celsius	°C	1
Engine Coolant Pressure	PSI	psi	5
Engine Coolant Temperature	Celsius	°C	1
Engine Crankcase Pressure	kPa absolute	kPa a	20
Engine Oil Pressure			20
Engine Oil Temperature	Celsius	°C	1
Engine RPM	rev/min	rpm	100
Engine Run Time	Second	s	1
Engine Run Time Hours Total			1
Engine Speed Limit State			20
Engine Speed Pin Diag			10
Engine Speed Ref Diag			10
Engine Speed Run Limit 1 Time	Second	s	1
Engine Speed Run Limit 2 Time	Second	s	1
Engine Speed Running Maximum	Rev/min	rpm	1
Engine Sync Pin Diag			10
Engine Sync Pos Diag			10
Engine Sync Position			20
Fuel Closed Loop Control Aim	Lambda	LA	50
Fuel Closed Loop Control Bank 1 Trim	Percent	%	50
Fuel Closed Loop Control Bank 2 Trim	Percent	%	50
Fuel Closed Loop Control Trim Max	Percent	%	1
Fuel Closed Loop Control Trim Min	Percent	%	1
Fuel Closed Loop Diagnostic			50
Fuel Closed Loop State			50
Fuel Mix Aim Driver Trim State			10
Fuel Mixture Aim Driver Trim††††	Percent	%	1
Fuel Mixture Aim State			20

Channel Name (Alias)	Units		Transmit Rate (Hz)Max
Fuel Mixture Aim***	Lambda	LA	20
Fuel Output Cut Average	Percent	%	50
Fuel Output Cut Count			50
Fuel Pot Level	Litre	l	10
Fuel Pressure	Bar	bar	20
Fuel Temperature	Celsius	°C	1
Fuel Used	Litre	l	5
Fuel Used ECU	Litre	l	1
Fuel Used per Lap	Litre	l	1
Fuel Used Target†††	Litre	l	1
Fuel Used Total	Litre	l	1
G Lat*			10
G Long*			10
G Vert*			10
Gear			50
Gear Estimate			50
Gear Lever	Newton	N	50
Gear Position Sensor Diagnostic			50
Gear Position Sensor Voltage	Volt	V	50
Gear Position Tracking Voltage	Volt	V	50
Gear Shift Diagnostic			20
Gear Shift Ign Cut	Percent	%	50
Gear Source			50
GPS Date			1
GPS Diagnostic			1
GPS Time			1
Ground Speed	Kilometre/hour	km/h	50
Helmet Temp**	Celsius	°C	1
Ignition Output Cut Average	Percent	%	50
Ignition Output Cut Count			50
Ignition Timing	Degree	°	50
Lambda 1	Lambda	LA	50
Lambda 1 Norm	Lambda	LA	50
Lambda 2	Lambda	LA	50
Lambda 2 Norm	Lambda	LA	50
Lap Beacon			1
Lap Distance	metre	m	10
Lap Number			1
Lap Time	Second	s	1

Channel Name (Alias)	Units		Transmit Rate (Hz)Max
Lap Time Gain/Loss	Second	s	10
Lap Time Gain/Loss Final	Second	s	1
Lap Time Predicted	Second	s	10
Lap Time Reference	Second	s	1
Lap Time Running	Second	s	10
LTC 1 Diag			20
LTC 1 Firmware Version Letter			1
LTC 1 Firmware Version Number			1
LTC 1 Serial Number			1
LTC 1 State			20
LTC 2 Diag			20
LTC 2 Firmware Version Letter			1
LTC 2 Firmware Version Number			1
LTC 2 Serial Number			1
LTC 2 State			20
Mode Switch			1
PDM Current 1 Main Pump 1‡	Amp	A	5
PDM Current 11 Radio	Amp	A	5
PDM Current 12 MoTeC Devices	Amp	A	5
PDM Current 13 Tail Lights	Amp	A	5
PDM Total Current‡	Amp	A	50
Multiple PDM Voltages			1
Multiple PDM Status			1
Multiple PDM Current			1
Power Steering Pressure	PSI	psi	100
Power Steering Temperature	Celsius	°C	1
Sensor ID FL			1
Sensor ID FR			1
Sensor ID RL			1
Sensor ID RR			1
Soft Tyre			1
Speed FL	Kilometre/hour	km/h	20
Speed FR	Kilometre/hour	km/h	20
Speed RL	Kilometre/hour	km/h	20
Speed RL Calculated	Kilometre/hour	km/h	20
State Gear Shift			50
State Ignition Cut			50
State Ignition Timing			50
Steered Angle	Degree	°	50

Channel Name (Alias)	Units		Transmit Rate (Hz)Max
Suspension (Damper) Position FL			20
Suspension (Damper) Position FR			20
Suspension (Damper) Position RL			20
Suspension (Damper) Position RR			20
Throttle Pos	Percent	%	50
Throttle Pos Fuel Mix Aim	Lambda	LA	20
TPMS WD Counter FL			1
TPMS WD Counter FR			1
TPMS WD Counter RL			1
TPMS WD Counter RR			1
Track State			10
Trans Temp Run Limit Time 1	Second	s	1
Trans Temp Run Limit Time 2	Second	s	1
Trans Temp Running Enable			1
Trans Temp Running Max	Celsius	°C	1
Transaxle Pressure	PSI	psi	20
Transaxle Temperature	Celsius	°C	1
Tyre Pressure FL	PSI	psi	5
Tyre Pressure FR	PSI	psi	5
Tyre Pressure RL	PSI	psi	5
Tyre Pressure RR	PSI	psi	5
Tyre Temperature FL	Celsius	°C	1
Tyre Temperature FR	Celsius	°C	1
Tyre Temperature RL	Celsius	°C	1
Tyre Temperature RR	Celsius	°C	1
Vehicle Odometer	Kilometre	km	1
Vehicle State			10
Wet Tyre			1