

SUPERCARS OPERATIONS MANUAL 2023
**DIVISION “G” – DUNLOP SUPER2 TECHNICAL RULES
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SUPERCARS OPERATIONS MANUAL 2023
DIVISION “G” – DUNLOP SUPER2 TECHNICAL RULES
G1. GENERAL
G1.1 Preamble

- 1.1.1 This Division G applies only to the DS2.
- 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 shall be banned without notice by Supercars.
- 1.1.4 In all circumstances the primary function of any component or configuration, 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.

G1.2 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:

Eligible makes and models of Cars		
Year	Ford	Holden
2022	Mustang GT (FN)	Commodore (ZB)

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

G1.3 CTM Overriding Authority

- 1.3.1 Traction control is prohibited.
 - 1.3.1.1 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 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.

G2. COMPLIANCE

G2.1 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 A Car must comply with the relevant sections of Article 277 of Appendix J Category II SH to the ISC of the FIA.
- 2.1.4 All Control Parts are listed in [Schedule G1](#) and must always comply with the definition of a Control Part.
- 2.1.5 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.
- 2.1.6 The acceptance of the targeted scrutiny declaration conditions will be deemed to be an implicit statement by the Competitor of conformity with the Rules.
- 2.1.7 It is the Competitor's responsibility to ensure all required Supercars seals are affixed prior to the first qualifying Session at an Event.
 - 2.1.7.1 It is the Competitor's responsibility to ensure all Supercars seal affixed by any Supercars' official remains intact.
 - 2.1.7.2 No Supercars seal may be removed at any time without prior written approval of the CTM.

G2.2 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, 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.

G2.3 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.

G2.4 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 G2.4.2, 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 G2.4.1, 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.

G2.5 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.

G3. SCRUTINEERING

G3.1 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.

G3.2 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.

G3.3 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.

G3.4 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).

G3.5 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; and

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; and

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.

G3.6 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.

G3.7 Prohibition of Unsafe Cars

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

G3.8 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.

G3.9 No Replacement Cars

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

G3.10 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.

G3.11 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.

G4. CONSTRUCTION & MODIFICATION

G4.1 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 755 kg, 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 G4.1.1 and G4.1.2 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.

G4.2 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 8 mm 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 10 kg; 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 12 (twelve).
- 4.2.2 The minimum Driver mass is 103.5 kg which will include the following:
- 4.2.2.1 Driver's weight with his/her 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=575 mm, X=1985 mm and Y=42 mm, Y=683 mm;
- 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.

G4.3 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 ($Z > 900$ mm); and
 - b) one (1) approximately in the middle of the B-Pillar ($Z > 350$ mm); and
 - 4.3.6.2 The X dimension must be no greater than 150 mm 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 100 mm.
- 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 25.4 mm 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.

G4.4 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 active wireless or Bluetooth connectivity, nor a sim card or eSIM functionality enabled.

G4.5 Composite Components

- 4.5.1 In addition to the approved Composite Material components contained in the VSD, the items contained in [Schedule G1.10](#) 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 G4](#)).
- 4.5.3.2 Front guards, front left door skin, rear door skins ([Schedule G5](#)).
- 4.5.3.3 Rear quarter panels ([Schedule G6](#)).

NOTE: Where the layup of a 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.

G4.6 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).

G4.7 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.

G4.8 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=0 mm.
- 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
- 4.8.7 A tangible reference point must be affixed to the Chassis as per drawing SC-11-051 of the Design.

G4.9 General Dimensions

- 4.9.1 At all times, each Car must comply with the general dimensions in the table below.
 - 4.9.1.1 The measurements in the table below must be met on any type of Control Tyre as listed in D17.1.9.
 - 4.9.1.2 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

G5. SAFETY EQUIPMENT

G5.1 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=50 mm and Y=60 mm.
- 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=2020 mm.
- 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.

G5.2 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 G9](#). 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 3.5 kg.

G5.3 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.

G5.4 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: Windows/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.

G5.5 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 to 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 FIA 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.

G5.6 Fire Extinguisher Systems

- 5.6.1 Each Car must be fitted with a Lifeline 105-001-006 fire extinguisher system, 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:
- X= +850 mm and X= +1420 mm; and
 - Y= -200 mm and Y= -665 mm.

G5.7 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 boot or rear hatch tether(s), if used, must be as per the VSD.
- 5.7.4 The bonnet tether(s), if used, must be as per the VSD.
- 5.7.5 The Team is responsible for the integrity of all tethers and their required replacement.

G6. BODY REQUIREMENTS

G6.1 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 panel to allow fitment of the windscreen wiper mechanism.
- 6.1.4 All external airline fittings must be recessed so they are not likely to cause injury.
- 6.1.4.1 All external airline fittings must be mounted between the following position:
 - a) X= +1960 mm and X= +2260 mm (measurement taken to the centre of the airline fitting)
 - b) And above the lower edge of the side window.
- 6.1.5 The bonnet and boot/rear hatch must be secured, by at least two (2) separate fasteners for the bonnet and two (2) separate fasteners for the boot /rear hatch, notwithstanding the hinging arrangements.
- 6.1.6 The fasteners for the bonnet and boot/rear hatch 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/rear hatch 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 /rear hatch 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 5 mm Allen key only.
- 6.1.8 The minimum weight for any front bumper bar and headlights molded as a unitary item, excluding its mounting system, is 16.5 kg.
- 6.1.8.1 It is permitted to apply ballast to a front bumper bar to achieve the minimum weight in accordance with Rule G6.1.8. 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. The design is subject to the approval of the CTM.
- 6.1.10 For the purpose of sealing the External Bodywork in accordance with the VSD, it will be permitted to utilise the OEM bodywork sealing rubbers or an alternative aftermarket sealing rubber that is visually similar to and performs the same function as the OEM bodywork sealing rubber and/or as indicated in the VSD.

G6.2 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.
- 6.2.4 Cars must only be fitted with an engine inlet air radiator duct as detailed in an ESD relevant to that make of Car.

G6.3 Windscreens

- 6.3.1 The front and rear windscreens must be of polycarbonate material with a thickness of 6 mm \pm 0.3 mm (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.

G6.4 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 G3](#); exception made to a 2 door Car model where the side impact protection must be covering the entire Driver's side door.
- 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 windscreens 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 G7. and also must have a handle through-hole located in the polycarbonate insert that complies with [Schedule G7](#).
 - 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 G6.4.2
- 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.

G6.5 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 5000 mm², 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.

G6.6 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 50 mm;
 - 6.6.1.2 permit the insertion of a round bar of 40 mm 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 G6.6.1 above, a Car must be fitted with secondary internal tow straps, located inside the boot/rear hatch 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/rear hatch 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/rear hatch and under the bonnet when being used.
 - 6.6.2.4 be rated to a minimum load rating of 1500 kg.
 - 6.6.2.5 have gas struts to hold the boot/rear hatch 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.

G6.7 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.

G7. SUSPENSION

G7.1 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.
- 7.1.2.1 The spring must have a linear rate ($\pm 5\%$)
- The linearity of the spring must be achieved both as installed on the Control damper fitted to the Car and as measured off the Car.
 - The above linearity will be checked without spring rubbers fitted.
- 7.1.2.2 The spring must have closed and ground ends.
- 7.1.2.3 The pitch of the spring past the first coil turn at either end must be consistent across the length of the spring to within 1mm.
- 7.1.2.4 The wire diameter of the spring past the first turn at either end must be consistent across the length of the spring to within 1mm.
- 7.1.2.5 It is permitted to use one (1) spring rubber on each corner of a Car.
- The spring rubber can only be engaged one (1) turn.
- 7.1.2.6 Any spring rubber needs to be approved for use by the CTM.

G7.2 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	$\pm 320.0 \pm 2.0$
	Z	13.0 ± 20.0
Lower wishbone rear pivot	X	0.0 ± 4.0
	Y	$\pm 320.0 \pm 2.0$
	Z	18.0 ± 20.0
Upper wishbone front pivot	X	-150.0 ± 4.0
	Y	$\pm 420.0 \pm 2.0$
	Z	273.0 ± 20.0
Upper wishbone rear pivot	X	140.0 ± 4.0
	Y	$\pm 420.0 \pm 2.0$
	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.

- 7.2.3.1 Prior to the start of each Season dimensions of the front lower control arm must be submitted to the CTM for approval.
- 7.2.3.2 Each modification must have the prior written approval of the CTM.
- 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.
 - 7.2.4.4 Prior to the start of each Season drawings for the detachable front suspension cross member must be submitted to the CTM for approval.
 - a) Each modification must have the prior written approval of the CTM.
- 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 front suspension 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

G7.3 Front Upright

- 7.3.1 Prior to the start of each Season drawings for the front upright must be submitted to the CTM for approval.
 - 7.3.1.1 Each modification must have the prior written approval of the CTM.
- 7.3.2 The minimum weight of each front upright must be 10.5 kg.
- 7.3.3 The weight of each front upright will be determined after:
 - 7.3.3.1 disconnecting the front upright from the outer joints of the upper and lower wishbones and steering arm; and
 - 7.3.3.2 removing the brake rotor, brake hat, bobbins and brake caliper; and
 - 7.3.3.3 disconnecting all of the ducting and electrics at the closest joint to the front upright.
 - 7.3.3.4 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.
- 7.3.4.5 It must be possible for the Car to be driven at racing speed on any Circuit in this configuration.
- 7.3.4.6 The CTM will retain the appropriate sample parts.

7.3.5 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.

G7.4 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

G7.5 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.

G7.6 Anti-Roll Bars

- 7.6.1 Prior to the start of each Season drawings for the front anti-roll bar (FARB) and rear anti-roll bar (RARB) must be submitted to the CTM for approval.
- 7.6.1.1 These drawings must detail all rocker options
 - 7.6.1.2 These drawings must also detail respective linkage lengths
 - 7.6.1.3 One of these drawings must depict the complete assembly of the FARB
 - 7.6.1.4 One of these drawings must depict the complete assembly of the RARB
 - 7.6.1.5 Each modification must have the prior written approval of the CTM
- 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 Unless otherwise specified, each link in the anti-roll bar system must be of a fixed length.
- 7.6.8 Modification of the Chassis rail to allow fitment of a FARB rocker is permitted. Any such modification:
- 7.6.8.1 must only support the rocker; and
 - 7.6.8.2 will be permitted to extend no further than 50mm from the centreline of the rocker spindle;
 - 7.6.8.3 and no lower than the lower face of the Chassis rail;
 - 7.6.8.4 and no further inboard than the inner face of the Chassis rail.
 - 7.6.8.5 Each modification must have the prior written approval of the CTM.
- 7.6.9 The RARB must only be mounted to the rear Chassis rails.
- 7.6.10 The centre line of the RARB must be:
- 7.6.10.1 no lower than $Z = 280\text{mm}$; and
 - 7.6.10.2 no further rearward than $X = 3095\text{mm}$.
- 7.6.11 The torsion tube for the RARB must not exceed 50mm in outside diameter.
- 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 It is permitted to locally modify the rear sheet metal to allow fitment of the RARB.
- 7.6.14 Modification of the rear Chassis rail to allow fitment of the RARB rocker is permitted with the prior written approval of the CTM. Any such modification:
- 7.6.14.1 must only support the RARB rocker; and
 - 7.6.14.2 must not extend internally further than 50mm from the centreline of the rocker spindle; and

7.6.14.3 must not extend externally of the rear Chassis rail save for in the direction of the rocker spindle.

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

G7.7 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.

G7.8 Control Dampers

7.8.1 A Car must only be fitted with the Control Damper assembly, as designated in [Schedule G1.2](#).

7.8.2 The Control Damper will be identified by the means of detailed drawings, photographs, specifications, samples and serial numbers held by Supercars.

7.8.3 The Control Dampers must comply with the following requirements:

7.8.3.1 adjustment of any Control Damper from the cockpit is prohibited;

7.8.3.2 only one (1) Control Damper per wheel is permitted; and

7.8.4 The only form of droop control permitted is the open length of the damper.

G8. ENGINE

G8.1 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 20380 as recorded on the Supercars dynamometer.
- 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 be provision to affix seals to the water pump and/or timing cover to prevent the camshaft(s) from being removed from the engine.
- 8.1.5 There must also be provision to affix seals to Engine CoG ballasts. 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. These seals must only be removed by the CTM or with the express prior approval of, and subject to the conditions of, the CTM.

G8.2 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.

G8.3 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:
- X = -470 mm ± 5 mm
 - Z = 380 mm ± 5 mm
- 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.
- The front face of the water radiator core must be at an angle of $5.0^{\circ} \pm 0.5^{\circ}$ from the YZ reference plane.

- 8.3.2 The size permitted for the water radiator core is:
 - 8.3.2.1 Width = 730 mm ± 5 mm
 - 8.3.2.2 Height = 355 mm ± 5 mm
- 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 front bumper bar as detailed in the relative VSD.
- 8.3.10 Unless otherwise specified in the relevant 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.

G8.4 Exhaust System

- 8.4.1 Each Car must be fitted with an exhaust system in accordance and as specified in the relevant ESD.
- 8.4.2 The outlet pipe/s of the exhaust system must utilise the cut-out provided in the left-hand sill for this 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 20 mm outside the adjacent Bodywork.
- 8.4.4 The exhaust system must be a complete and continuous unit and exhaust gas must only exit 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 95 dB(A) measured at 30 m 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 1.2 mm (18 gauge).

G8.5 Inlet System

- 8.5.1 The inlet/induction system for all engines are detailed in the relevant ESD.
- 8.5.2 The following applies to all inlet/induction systems:
 - 8.5.2.1 the engine must be naturally aspirated; and

- 8.5.2.2 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
- 8.5.2.3 the inlet must be of a fixed length; and
- 8.5.2.4 the throttle actuation for a Car must be exclusively by “butterfly”.
- 8.5.3 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.
- 8.5.4 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.
- 8.5.5 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.
- 8.5.6 Air for the engine must only be ducted from the large centre orifice in the front bumper bar.

G8.6 Engine Mounting

- 8.6.1 Engine mounting systems must only mount the engine to the removable front suspension cross member as defined in [G7.2.4](#).
- 8.6.2 The engine must be mounted by the sump with two (2) mounting points with an M10 thread or equivalent located in the area between:
 - a) X= 0 mm and X= -105 mm; and
 - b) Y= ±105 mm and Y= ±130 mm.

G8.7 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 $1.8^{\circ} \pm 0.2^{\circ}$ (where a positive angle denotes the front of the engine being higher).

G8.8 Engine Weight

- 8.8.1 The total minimum engine weight is 200 kg dry.
 - 8.8.1.1 The centre of gravity (CoG) of any engine must be in the location as detailed in the relevant ESD.
 - 8.8.1.2 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.
 - 8.8.1.3 All engine ballast affixed in accordance with Rule G8.8.1.2 must only be affixed to the Chassis in a position authorised by the CTM.
- 8.8.2 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. Any time the engine is weighed for compliance with Rule G8.8.1 and Rule G8.8.1.1 it must be in the configuration as detailed in the relevant ESD.
- 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.

G8.9 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 2.0 kg.
- 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.

G8.10 Clutch

- 8.10.1 A Car must only be fitted with a clutch as designated in [Schedule G1.3](#).
- 8.10.2 Each clutch listed in Schedule G1.3 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.

G8.11 Not in Use**G8.12 Engine Parity**

- 8.12.1 The CTM 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.
- 8.12.2 The requests of the CTM regarding engine parity will not be subject to protest or Appeal.

G9. FUEL SYSTEM

G9.1 Fuel Tank Requirements - General

9.1.1 Each Car must be fitted with an ethanol compatible fuel tank conforming to the FIA FT3 specification.

NOTE: The validity of the fuel tank expires five (5) years from the date of manufacture displayed on the fuel tank. An additional two (2) year waiver may be granted by the fuel tank manufacturer provided the fuel tank is returned to the fuel tank manufacturer for inspection.

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.

9.1.2.1 The fuel cell and housing must comply with the Design and the Control Parts of [Schedule G1.6](#).

9.1.3 The following modifications are permitted to the fuel system:

9.1.3.1 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.

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

9.1.3.3 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 drawing 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.

9.1.3.4 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.

G9.2 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 G1.6](#) and must be fitted in accordance with the Design.

G9.3 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 70 bar (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 G9.3.1, the routing of the fuel lines through the cockpit must be located to the right-hand side of the Car centreline.
- 9.3.3 A fuel flow sensor if fitted must be above the fuel cell between the fuel pressure regulator and the bulkhead fitting for the engine feed.

G9.4 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 G9.4.1.
- 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.

G9.5 Fuel Tank Vent

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

G9.6 Fuel Fillers

- 9.6.1 DS2 Teams are required to do the following:
- 9.6.1.1 Remove the FIA Siamese fitting. (A blanking plate will be approved).
 - 9.6.1.2 And remove the fuel and vent Premier hose and aluminium bend.
 - 9.6.1.3 And 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.

G10. DRIVETRAIN**G10.1 General**

10.1.1 The list of components approved for use in the drivetrain are designated in [Schedule G1.3](#).

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.

G10.2 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.

G10.3 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 drawings, 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 drybreak coupler at each end for the purpose of filling the transaxle with oil. The drybreak at the transaxle end must replace an inspection plug. Except for within the cabin, the location of this line is free.

G10.4 Gear Lever

10.4.1 The gear lever must respect the Design, specifically drawing number 14471.

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

G10.5 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
Hampton Downs Motorsport Park	1.07	27/29
Hidden Valley Raceway	1.042	24/25
Mt 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

G10.6 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 radiator as specified by the Design.

G10.7 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% |

G10.8 Tailshaft Hoops

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

G11. BRAKES

G11.1 General

- 11.1.1 Each Car must be fitted with a dual circuit braking system operated by the same pedal. The pedal shall 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 G1.5](#).
- 11.1.3 It is permitted to:
- 11.1.3.1 use the brake pressure sensors to activate the brake lights; and/or
 - 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 G1.5](#) are:
- 11.1.7.1 Anti-knock back springs may be deleted; and
 - 11.1.7.2 Drilling and tapping to fit a brake duct. Any such drilling must have the prior approval of the Control Part supplier and the CTM.
 - 11.1.7.3 Modifications required for brake rotor changes require the prior written approval of the Control Part supplier and the CTM.
- 11.1.8 For Endurance Events the following modifications are permitted:
- 11.1.8.1 Remove pad retainer (CP6268-108) and M6 x 1.0 socket head cap screw (CP6360-1111).
 - 11.1.8.2 The quick release pad retainers CP6268-109 or CP6268-132 may be modified in order to assist in pad changes. This modification is not permitted to change the way the spring operates however the spring is permitted to be modified to ensure the pad is retained in the correct position within the caliper.
- 11.1.9 The Control brake rotors and calipers will be identified by the means of detailed drawings, photographs, specifications and serial numbers retained by the CTM.

G11.2 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; and
 - COF-1-0012 (qty. 3); and
 - COF-1-0013 (qty. 1); and
 - COF-1-0014 (qty. 2).
 - 11.2.1.2 Option 2:
 - V8SC-MSTR-38.
- 11.2.2 Either Option 1 or Option 2 as described in Rule G11.2.1.1 or Rule G11.2.1.2 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 10 mm 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= 125 mm.
- 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.

G11.3 Brake Pads

- 11.3.1 At an Event, a Car must be fitted only with the brake pads designated in [Schedule G1.5](#).

G11.4 Other Brake System Requirements

- 11.4.1 The fitment of a brake lock mechanism consisting of a hydraulic solenoid valve that when operational locks the rear wheels, is mandatory. The operation of the brake lock mechanism must only be by an on/off switch.
 - 11.4.1.1 A cable or hydraulically operated handbrake system is permitted as a brake lock mechanism with the prior approval of the CTM. If in operation, it must only be located and operated by a lever 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 or to stop the rear wheels from rotating in a Pit Stop. The operation of the brake lock mechanism cannot be automated in any manner when used during a standing start and must be operated by the Driver as detailed in Rule G11.4.1.
- 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 safety harness correctly fastened.

G11.5 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 channelling ambient air to the brakes is permitted.

G12. STEERING

G12.1 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 components as detailed in [Schedule G1.2](#).
 - 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.

G13. WHEELS**G13.1 Control Wheel**

- 13.1.1 A Car must only use the Supercars Control wheel as detailed in the Design.
- 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.

G13.2 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.
 - 13.2.1.4 The wheel nut breaking torque must be greater than 650 Nm.
- 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 G2](#).

G13.3 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.

G14. ELECTRICAL SYSTEM

G14.1 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.

G14.2 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 120 mm.

G14.3 Battery

- 14.3.1 The battery fitted to a Car must be either detailed in Rule G14.3.1.1 or Rule G14.3.1.2:
 - 14.3.1.1 'dry cell' lead acid technology.
 - 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 2.0 mm steel with three (3) vertical sides of minimum 20 mm height; and
 - 14.3.2.6 so that V8SC-RPNL-01L 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 3 mm thick; and
 - 14.3.3.3 be a minimum of 20 mm wide; and
 - 14.3.3.4 be attached to the Chassis with four (4) bolts/studs at least 10 mm in diameter; and
 - 14.3.3.5 have counter-plates of at least 3 mm thick with a surface area of at least 2000 mm² beneath each bolt.
- 14.3.4 The electrical terminals need to be electrically insulated.

G14.4 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.

G14.5 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 G14.5.1 and Rule G14.5.2 are free with the prior approval for use 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.

G14.6 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 time.

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.

G14.7 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.

G14.8 Not in use**G14.9 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.

14.9.4 The antenna for the in-Car camera system must be located as detailed in the VSD.

G15. ECU & DATA SYSTEMS

G15.1 Control Electrical Package

- 15.1.1 Except for that permitted in [Rule G4.4.2](#), a Car must only be fitted with the Control electrical package components designated in the table in [Schedule G1.7](#).
- 15.1.2 It is only permitted to use the quantity of the components listed in the table in Schedule G1.7 in a Car. If no quantity is listed the amount is free.
- 15.1.3 The following components must be installed in a Car in the location listed in the following table:

Component	Location	Note
ADR (P12)	Any part of the ADR, on the floor to the right-hand side of the Driver's seat rear lower mounting bolt. 200 mm +/-5 mm inboard from V8SC-MSTR-19RA and 8 mm +/-5 mm in front of V8SC-MSTR-15RF with the plug orientated to the right.	
Airjack Pressure Switch	In airjack line near front left airjack	
bf1systems DigiTyre Lite TPMS ECU	Passenger floor extending to left hand side tunnel or Centre Console	If used
Cockpit Temperature Sensor	Mounted on tube V8SC-SM-01	
Crankcase Pressure Sensor	Passenger floor or LHS front firewall (cabin side)	
Engine Loom Interface 1 (P6)	On the firewall, LHS of the transmission tunnel	
Engine Loom Interface 2 (P7)	On the firewall, LHS of the transmission tunnel	
Engine MAP Sensor	Passenger floor or LHS front firewall (cabin side)	
MoTeC Beacon Receiver	LH or RH side rear window attached to the ROPS for a 4 door Car model. LH or RH side door window attached to the ROPS for a 2 door Car model.	LH or RH side depending on the Circuit
MoTeC C185	On the steering wheel or in front of the Driver above the steering column	If used
MoTeC Display	On the steering wheel or in front of the Driver above the steering column	If used
MoTeC 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 V2	LH A pillar	Only one system (VCS or V2) is to be installed at any time.
MoTeC VCS	Passenger floor	
MoTeC VCS Camera	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 the transmission tunnel between the gear lever and the engine firewall. This connector is not required if the PDM32 and the data logger are located in the Centre Console	
Telemetry Cellular Antenna	Upper front left front screen (interior)	If used
Telemetry Diversity Antenna	Upper rear right rear screen (interior)	If used

- 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 camera, Identification Lights) must be switched on and supply a nominal 12 volts at all times the master switch is on.
- 15.1.5 The GPS antenna must be positioned on the outer surface of the roof on the centreline and near the 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.

G15.2 Engine Control

- 15.2.1 A Car must only be fitted with one (1) Control ECU at all times.
 - 15.2.1.1 Access to the Control ECU must be provided to the CTM at any time upon request.
 - 15.2.1.2 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 DS2 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".

G15.3 Engine Fuel Ratio

- 15.3.1 Lambda bank 1 or Lambda bank 2 of any engine must not exceed the Scrutineering maximum Lambda value for more than the Scrutineering maximum tolerance while the engine is above the Scrutineering Lambda engine speed value and above the Scrutineering Lambda throttle position.

- 15.3.2 Throttle Position will be considered zero percent (0%) when the throttle is on the idle stop and when the engine is at idle speed. For clarity, this is where the engine makes the minimum measured power. Throttle Position will be considered 100% when the throttle is on the full throttle stop. For clarity, this is where the engine makes the maximum measured power above 6000rpm. The throttle position sensor “offset” as set in the Control ECU must be set at zero percent (0%), and the throttle position sensor “scale” as set in the Control ECU must be set at 100%.
- 15.3.3 The Lambda sensor and MoTeC LTC must be fitted and air calibrated in accordance with the manufacturer specifications. It is not permitted to modify the Lambda sensor or MoTeC LTC in any way.
- 15.3.4 The HoM may at any time perform the following, but not limited to:
 - 15.3.4.1 Calibrate any Lambda sensor fitted to the Car;
 - 15.3.4.2 Seal Lambda sensor fitted to the Car;
 - 15.3.4.3 Seal MoTeC LTC fitted to the Car;
 - 15.3.4.4 Request the Team replace any Lambda sensor or MoTeC LTC fitted to the Car;
 - 15.3.4.5 Supply a new Lambda sensor or MoTeC LTC to be fitted to the Car; and
 - 15.3.4.6 Confiscate any Lambda sensor or MoTeC LTC for testing.
- 15.3.5 From the commencement of the Season, the following values are used:
 - 15.3.5.1 Scrutineering maximum Lambda value: 0.900 LA;
 - 15.3.5.2 Scrutineering Lambda engine speed value: 5000 rpm;
 - 15.3.5.3 Scrutineering Lambda Throttle Position: 80%;
 - 15.3.5.4 Scrutineering maximum tolerance: 10% (as calculated by ECU channel “Scrutineering Lambda Bank 1 or Lambda Bank 2 Previous Lap Breach Percent”) for 3 consecutive laps.
- 15.3.6 Only the below version of software is permitted to be used in conjunction with the MoTeC LTC and LTCN modules respectively:
 - 15.3.6.1 MoTeC LTC (61301V) – LTC LTCD Manager V1.2.0.0013 – V1.3.0.0002;
- 15.3.7 MoTeC LTCD NTK (61305V) – LTC LTCD Manager V1.2.0.0013.

G15.4 Control Sensors and Actuators

- 15.4.1 The table in [Schedule G1.8](#). lists the actuators and sensors permitted to be connected to the Control ECU and/or the data logger.
- 15.4.2 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.
- 15.4.3 A sensor must be connected as denoted in the “Destination” column in the table in [Schedule G1.8](#). 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.
- 15.4.4 Any sensor or actuator connected to the Control ECU or data logger must correctly represent the measured parameter.
 - 15.4.4.1 Any measured parameter transmitted via telemetry must correctly represent the measured parameter.
- 15.4.5 All permitted sensors and actuators must remain identifiable and unmodified, except as required to solely facilitate mounting.
 - 15.4.5.1 It is permitted to enlarge the mounting hole of a coil unit for the sole purpose of mounting using a proprietary anti-vibration mount.
- 15.4.6 All permitted sensors and actuators may be subjected to destructive testing.
- 15.4.7 The fuel pressure sensor must be located forward of the front firewall.
- 15.4.8 It is permitted to permanently attach wiring (pot) to the sensors listed in the table in Schedule G1.8. All wiring connectors must respect the requirements of the Control wiring pinout and connector specifications.

15.4.9 The CTM reserves the right to require a Team to fit additional sensors beyond those listed in the table in [Schedule G1.8](#).

G15.5 Pit Lane Speed Limiter

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

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

15.5.1.2 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.

15.5.2 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.

G15.6 Rain Light/Stall Light

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

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

G15.7 Electronic Data – Logging, Display & Telemetry

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

15.7.2 It is not permitted to change the data logger or its configuration file once an Event has commenced without the written approval from the CTM.

15.7.2.1 The following configuration file changes do not require approval from the CTM:

a) reference lap time, and

b) shift lights, and

c) constants, and

d) zeroing or recalibrating sensors that have a destination listed as Data Logger in [Schedule G1.8](#).

15.7.3 The data logger must be using MoTeC Dash Manager 6.11M, 6.13E or 6.40J.

15.7.4 It is not permitted to use the voltage, current, temperature or diagnostic channels from the power distributions module for any purpose other than for diagnostic and protection functions.

15.7.5 It is permitted to use on/off switches connected to the display or data logger. The function of these switches must be submitted to the CTM prior to the commencement of the Season.

15.7.6 Each data logger must receive a carrier detect signal for telemetry as described in Schedule G11.

15.7.7 The data gathered from the sensors and actuators listed in [Rule G15.4](#) and from the Control ECU in the Teams logging section may then be recorded, displayed, or transmitted by any means permitted by the Rules.

15.7.8 The table below lists the maximum permitted instances of the following functions available in the data logger. Any functions mandated by Supercars are not included in the maximum number of instances.

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

15.7.9 The table below lists the permitted channels that can be displayed to the Driver whilst the Car is on the Circuit:

Air Jack Switch Timer (SC mandated timer only)	Identification Light 2
Alarms	Indicators
Brake Balance %	Lap Time
Brake Bias Position	Lap Time Delta
Dorian Timing System	Line Lock Engaged
ECU Battery Voltage	Pit Entry Lights
Engine RPM	Pit Limiter
FARB Position	Pressure (fuel, oil)
Flag Signals In Car Driver Warning	Rain Light
Front Lock Lights	RARB Position
Fuel Remaining	Rear Brake Pressure (during Pit stop and race start only)
Fuel Used End of Lap	Rear Lock Lights
Fuel Used Total	Shift Lights
Gear Position	Switch Positions
Ground Speed	Temperature (fuel, oil, engine coolant, inlet air and cool suit)
Headlights	Throttle Position (including SLM throttle position lights in Pit Lane)
Identification Light 1	

15.7.10 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.

15.7.11 The set-up of alarms is free providing the alarm only uses measured sensors or switches as listed in [G15](#) for its function.

15.7.11.1 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.

15.7.12 The table below lists the calculations that are permitted to be used in onboard math equations in the data logger. A calculation is defined as the output channel created by the use of any operation from the “Calculations” or “Functions” menu of the approved Dash Manager.

Anti-stall	Lambda breach conditions and alarms
Brake Balance %	Line Lock condition (for Pit Lane/airjack)
Brake Light switching	Line Lock conditions (for race start)
Brake Lock Lights (or buzzer) 1 level only	Oil pump control
Brake Pressure Travel alarm	Pit Lane conditions and alarms
Car Stopped	Pit Lane Entry lights or buzzer (1 level only)
Carrier Detect	Pit Lane Throttle Position (SLM lights)
Cool Suit pump control	Roll bar position

Damper Alarm (max travel/cross weight) for damaged suspension	Roll Bar sensor velocity
Damper Position zero/offset	Roll Bar solenoid control
Downshift conditions	Shift Lights
Driver Drink switching	Starter conditions
Driver Mark	Steered Angle
Engine RPM (recalculation of shifts lights for wet tyre)	Telemetry delay timers
Flag System conditions (Supercars mandated)	Transaxle Fan control
Fuel Pump Alarms	Tyre Pressure alarms
Fuel Used calculations (only three for driver display)	Wheel Speed sensor failure
Headlight switching	Wiper switching
Helmet Fan	

15.7.13 Logging 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

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

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

15.7.15 Each Car is permitted to be fitted with a telemetry system.

15.7.15.1 The baud rate in the communications set-up for telemetry must be set to 230400 bps.

15.7.15.2 The device parameter in the communications set-up for telemetry must be set to “telemetry & control”.

15.7.15.3 The telemetry transmission control settings must be configured as per [Schedule G11](#).

15.7.16 The following CAN templates must be used in the data logger:

CAN 1	CAN 2	CAN 3
M1 Supercars 0x640	ADR Receive	M1 Supercars 0x6D0 2020 SEPTv1.1
M1 Supercars 0x650	ADR Accel Rx 0x448	M1 Supercars 0x700 2020 v1.1
M1 Supercars 0 x6C0 Version 4.2		M1 Supercars 0x710 2020 v1.1
M1 Supercars 0x6E0 Dash to ECU SEPT20		M1 Supercars 0x720 2022
Dorian Rx 0x750-0x756 20191002 (Locked)		M1 Supercars 0x730 2022 v2.1
v2 Receive 0x01D Version 2		

G15.8 Signals to/from Cars

15.8.1 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 visual communication	Yes	Yes
Driver voice communication	Yes	Yes
Lap Beacon	Yes	No
Race Management Software	Yes	Yes
Telemetry (transmission of data)	No	Yes

G15.9 Not in use

G16. CAR EQUIPMENT**G16.1 Airjack & Airjack Timer**

- 16.1.1 Each Car must use the Control Parts designated in [Schedule G1.1](#).
- 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 to 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.
- 16.1.4 Refer to the table detailed in [Rule G15.1](#) Control Electrical Package, for the position of the airjack pressure switch.
- 16.1.5 Refer to [Schedule G10](#) for the airjack timer details.

G16.2 Driver Cooling System

- 16.2.1 Any Driver cooling system that contains a cooling medium 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 entire system during reasonably foreseeable loading conditions.

G16.3 Heatshield

- 16.3.1 Any modification must have the prior written approval of the CTM.
- 16.3.2 The air gap between the Chassis and the heatshield must comply with drawing SC-11-050 of the Design. The measurement will be taken between the lower surface of the heatshield and the Chassis perpendicular to the panel.

SCHEDULE G1. 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	CP3945-230EV:VCS	AP Racing	Competition Friction
Machined Parts	SC Design	Team	
ROPS*	SC Design	Team	
Sheet Metal	SC Design	Team	

NOTES:

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

2. Suspension & Steering

Part Name	Part No or Drawing No	Manufacturer	Supplier
Control Damper – Front*	A001-CD1-F	Supashock	Supashock
Control Damper – Rear*	A001-CD1-R	Supashock	Supashock
Front Travel Limiter	V8SC-11-030	Team	
Rear Travel Limiter	V8SC-11-034	Team	
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

NOTES:

- * The Control damper is supplied by Supashock with an integrated crash stop (bump rubber) assembly (SC-3-003)
- ** For the SBC 80 – 3 if other than the top mounting hole is used, the material containing the unused mounting holes may be removed.

3. Transaxle & 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 Adaptor	14800	Albins	Albins
Centre Bearing Mount*	V8SC-4-058	Teams	
Clutch	CP8503 CP8033 OT II 7.25 KKC 1803 KKC 1843 883082001376	AP Racing AP Racing Tilton Alcon Alcon Sachs	Competition Friction Competition Friction Racer Industries Namsport Namsport Triple Eight RE
Coupler	21138	Albins	Albins
Propshaft	19677 28067 AG-3031-A AG-3356 MTS-001-LW	Albins Albins Triple Eight RE Triple Eight RE Modena	Albins Albins Triple Eight RE Triple Eight RE Modena
Transaxle	Albins ST6	Albins	Albins
Transaxle Cooler	V8SC-7-001 (28028358)	Team	

NOTES:

* This is supplied as a Design.

4. Wheels & Tyres

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

5. Brake System

Part Name	Part No or Drawing No	Manufacturer	Supplier
Brake Bobbins	CP4135 107FR	AP Racing	Competition Friction
Brake Caliper-Front Left	CP6268-3S7L:V8SC	AP Racing	Competition Friction
Brake Caliper-Front Right	CP6268-2S7L:V8SC	AP Racing	Competition Friction
Brake Caliper-Rear Left	CP6267-3S0L:V8SC	AP Racing	Competition Friction
Brake Caliper-Rear Right	CP6267-2S0L:V8SC	AP Racing	Competition Friction
Brake Disc-Front Left	CP8184 109GC:V8SC	AP Racing	Competition Friction
Brake Disc-Front Right	CP8184-108GC: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 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
Master Cylinder – Front	CP7851 Series*	AP Racing	Competition Friction
	CP7855 Series*	AP Racing	Competition Friction
	MAR 5200 Series*	Alcon	Namsport
Master Cylinder – Rear	CP7851 Series*	AP Racing	Competition Friction
	CP7855 Series*	AP Racing	Competition Friction
	MAR 5200 Series*	Alcon	Namsport
Pedal Box	AS-3056	Triple Eight RE	Triple Eight RE
Pedal Box-Alternate pedal	AS 3112	Triple Eight RE	Triple Eight RE
Front Pad Option 1**	PFC01	PFC	Competition Friction
Front Pad Option 2**	Project Mu H16-03	Project Mu	Competition Friction
Rear Pad Option 1**	PFC97	PFC	Competition Friction

NOTES:

* 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 & Vent Hoses	2.25" Bladder Material Hose	Premier	Racer Industries
Fuel Bladder Housing	V8SC-8-10030	Premier	Racer Industries
Fuel Bladder Housing - Top Plate	V8SC-8-10031	Premier	Racer Industries
Fuel Bladder-Large	COF-8-10013	Premier	Racer Industries
Fuel Filler Pipes & Flanges	COF-8-10020 COF-8-10023 COF-8-10024	Team	
Fuel Filter	F5003 WZ373 Z5000RP 230606ERL & 230605ERL 601-010-06-08 602-010-06-08	Bosch Wesfill / Cooper Ryco Earls Speedflow Speedflow	
Fuel Housing Assembly	V8SC-8-10035	Premier	Racer Industries
Fuel Regulator	KFI 12-106 1729	Kinsler Edelbrock	
Fuel Restrictor	COF-8-10043	Albins	Supercars
Fuel System	SC Design	Team	

7. Electrical System

Part Name	Part No	Manufacturer	Supplier	Qty.
Accident Data Recorder	18116V – ADR	MoTeC	MoTeC	1
Battery	B128L MR-40	Braille MegaLife	Braille MegaLife	1 Or 1
Beacon Receiver	15512V	MoTeC	MoTeC	1
CAN Device	OBR SWC	OBR	OBR	1
Cockpit Temperature Sensor	Free	Free	Teams	1
Identification Lights	XT3 XTP3	Britax		3** or 3**
Data Logger*	18033V & 18063V – C185 Colour Display Logger (max 250MB logging memory)	MoTeC	MoTeC	1
	18035V – C187 Colour Display Logger (max 250MB logging memory)			Or 1
	18040V & 18047V – L180 Enclosed Logger (max 250MB logging memory)			Or 1
Display*	18027V – D153 Colour Mini Display	MoTeC	MoTeC	1
	18028V – D175 Colour Display Module			Or 1
	18033V – C185 Colour Display Logger			Or 1
	18035V – C187 Colour Display Logger			Or 1
ECU	13190V – M190 Supercars ECU	MoTeC	Supercars	1
GPS Receiver	41304V – GPS 10Hz	MoTeC	MoTeC	1
LTCD	61301V – Bosch	MoTeC	MoTeC	1
	61305V – NTK			Or 1
Membrane Switch Panel	41401	MoTeC	MoTeC	1
	41400	MoTeC	MoTeC	Or 1
	MSP v200	OBR	OBR	Or 1
Power Distribution Module	14100V – PDM32	MoTeC	MoTeC	1
Shift Light Module	18120V – SLM	MoTeC	MoTeC	2-3***
STC	61125	MoTeC	MoTeC	1
Telemetry Antenna	Adhesive Mount Antenna ANT-BH-OG-02 or ANT-BH-00045	Blackhawk	Powertec	2
Telemetry Modem	RV50	Sierra Wireless	Supercars	1
	RV50X			Or 1
Timing Transponder	TX16K Multi DDL Dorian Data-1	Dorian	Supercars	1 Or 1
Timing Rooftop Antenna	MA520.A.BC.008	TaoGlas		
Timing Under-Car Antenna	SC-9-001	Dorian	Supercars	
TPMS Antenna****	DigiTyre Lite Antenna	bf1systems	bf1systems	2
TPMS ECU****	DigiTyre Lite TPMS ECU	bf1systems	bf1systems	1
	1SYSTEM TPMS ECU	bf1systems	bf1systems	Or 4
	TPMS-WR21 Wheel Receiver	Texense	Texense	Or 4
TPMS LF Trigger****	DigiTyre Trigger	bf1systems	bf1systems	4
TPMS Wheel Sensor****	DigiTyre 14.7mbar/bit TPMS Wheel Sensor	bf1systems	bf1systems	4
	1SYSTEM TPMS Wheel Sensor	bf1systems	bf1systems	Or 4
	TPMS-RS21 Sensor	Texense	Texense	Or 4
Video Capture System	18207V – HD VCS	MoTeC	MoTeC	1
	18210 – V2			Or 1
Wiring Pinout Document	Control Wiring Pinout	Supercars		

NOTES:

- * If the same model is used as a logger and a display, a second logger or display is not permitted.
- ** Any combination of Identification Lights may be used; however the total must not exceed three (3).
- *** A 3rd SLM, if used, must be solely dedicated to the race management software.
- **** Only one tyre pressure monitoring system (TPMS) is permitted to be fitted.

8. Sensors and Actuators

Sensor	Qty	Destination	Manufacturer or Restrictions	Part #
Acceleration - Lateral, Longitudinal, Vertical ¹	1	Data Logger via CAN ECU via CAN	MoTeC	18116V - ADR
Coils	8	ECU Data Logger via CAN	GM	12573190
			GM	12611424
			Delphi	A1569060400 GN10165-11B1
			Hanshan	AIC-2402N
Fuel Flow	1	Data Logger	Floscan	200 series
			EI	Red Cube FT60
GPS – Data	1	ECU Data Logger (via STC)	MoTeC	41304V
Injectors	8	ECU Data Logger via CAN	Bosch	0 280 150 351 / 0 280 150 363
			Siemens	F111405
			Bosch EV14	B280 436 748-01 (BOSCH)
Level – Engine Coolant	1	Data Logger		
Level – Fuel	1	Data Logger	Gill	1612-00-215- 275mm 1612-00-017-275 4223-00-2SN-275
Load – Gear Lever	1	ECU Data Logger via CAN	Motorsport Systems	MS-GLC1
Motor – Drive by Wire Throttle	ESD	ECU	Refer to ESD	Refer to ESD
Position – Anti-Roll Bar	2 ²	Data Logger		
Position – Brake Balance Bar	1	Data Logger		
Position – Camshaft	1	ECU Data Logger via CAN	Honeywell	2AV Series
			Honeywell	4AV Series
			Siemens	HKZ101 / HKZ121
			Nanjing Huamin Electronics	HME101 / HME301
			Bosch	0 232 103 079 0 232 103 111
			Omron	E2E-X1R5E1
			MoTeC	59110
			Honeywell	IGT101DC
			Honeywell	IGT101DC
			Delco	10456555
			MoTeC	59110
Position – Gear	1	ECU Data Logger via CAN	Curtiss Wright	SRH280DP
			Novotechnik	RSC2800
			Variohm	Euro XP / Euro XPK
			Penny & Giles	D46523
			KA Sensors	KH 21 / KH 22

Sensor	Qty	Destination	Manufacturer or Restrictions	Part #
Position – Throttle	1	ECU Data Logger via CAN	Novatechnic	RSC 2800-600 Series
			Novatechnic	SP2841S0002/ SP28411002001
			Penny & Giles	SRH 280P
			Penny & Giles	D46523/MK
			Variohm/ ACAL	RSS-U-111-2838- 120-17-50-R-CS
		Variohm	Euro X 28	
Position – Throttle Pedal	1	ECU Data Logger via CAN	Curtiss Wright Variohm	NRH285DR Euro XPK
Pressure Switch – Airjack	1	Data Logger	Goodridge	BL992-31C BL992-31SC
Pressure – Brake Caliper	2 ²	ECU Data Logger via CAN		
Pressure – Crankcase	1	ECU Data Logger via CAN		
Pressure – Engine Coolant	1	ECU Data Logger via CAN		
Pressure – Engine Oil	1	ECU Data Logger via CAN		
Pressure – Fuel	1	ECU Data Logger via CAN	Druck	PWP4311
			Honeywell	MLH 100 – 250psi
			Texas Instruments	C63cp022 100 – 250psi
			McLaren	0030330052002 -10 Bar
Pressure – Manifold Air	1	ECU Data Logger via CAN	Delphi	12219931
Pressure – Power Steering	1	ECU Data Logger via CAN		
Pressure – Transmission	1	Data Logger ECU via CAN	Bosch	
			Honeywell	
			Honeywell	
Pump – Main Fuel	3	PDM ECU via CAN Data Logger via CAN	Bosch	0 580 254 979 0 580 464 201 0 580 464 203
Pump – Lift Fuel	5	PDM ECU via CAN Data Logger via CAN	Pierburg	7.21088.62
Rain Light	1-2	ECU Data Logger via CAN	GRME	CK - LR - DC
Ratio – Oxygen	2	LTCD ECU via CAN Data Logger via CAN	Bosch	LSU 4.9
Speed – Front Wheel	2 ³	ECU Data Logger via CAN A/EDL via CAN		

Sensor	Qty	Destination	Manufacturer or Restrictions	Part #
Speed – Rear Wheel	1	ECU Data Logger via CAN	PI Cosworth	01B-606021 (& A, FL, A-FL)
			Omron	E2E-X1R5E1
			Honeywell	GT101
			Texense	VR-TA
Temp – Cockpit	1-2	Data Logger		
Temp – Driver Cooling System	0-2	Data Logger		
Temp – Engine Air	1	ECU Data Logger via CAN	Keystone Thermetrics	2503 7388 2503 7334
			Delco	2503 7388
			Bosch	0 280 130 039 0 280 130 085
Temp – Engine Coolant	1	ECU Data Logger via CAN	Bosch	0 280 130 026 0 280 130 023
Temp – Engine Oil	1	ECU Data Logger via CAN		
Temp – Fuel	1	ECU Data Logger via CAN		
Temp – Power Steering Oil	1	Data Logger		
Temp – Transmission Oil	1	ECU Data Logger via CAN	Bosch	NTC M12-L
			Bosch	NTC M12
Travel – Brake Master Cylinder	2 ²	Data Logger	External Linear	
Travel – Steering	1	ECU Data Logger via CAN		
Travel – Suspension	4	Data Logger	Linear or rotary only	
TPMS – LF Trigger	4 ⁴	Not applicable	bf1systems	DigiTyre LF Trigger
TPMS – Antenna	2 ²	Not applicable	bf1systems	DigiTyre Lite Antenna
TPMS – Tyre Pressure & Internal Air Temperature Sensors	4 ⁴	ECU via CAN ⁵ Data Logger 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

NOTES:

¹ The ADR is the only device permitted to be used for any direct acceleration measurement

² One (1) for the front, and one (1) for the rear.

³ One (1) for the left, and one (1) for the right.

⁴ One (1) for each wheel.

⁵ Only bf1systems DigiTyre is sent to the Control ECU via CAN.

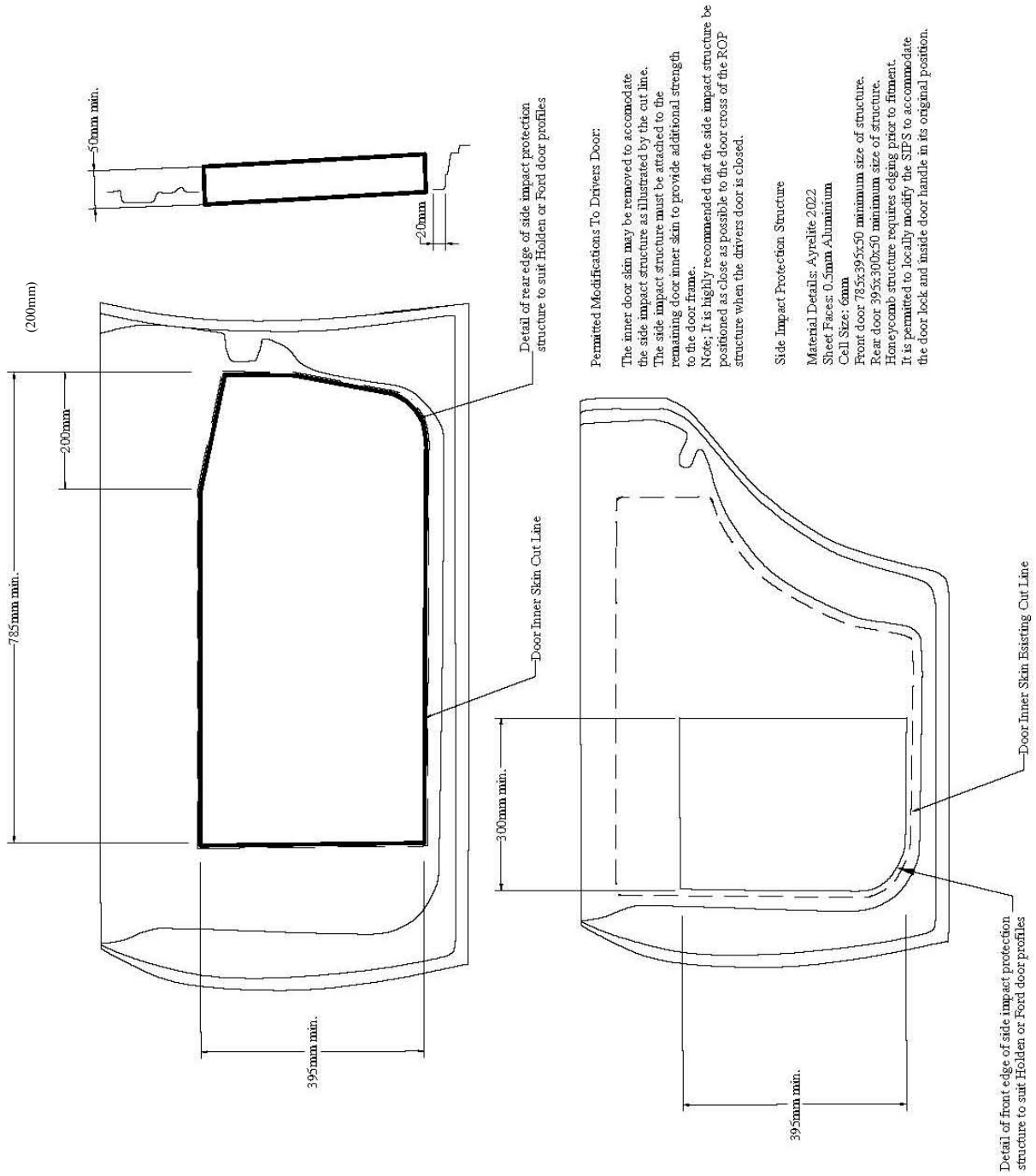
9. Bodywork and General

Part Name	Part No or Drawing No	Manufacturer	Supplier
Driver Door Skin Layup	V8SC-10-007 Schedule G4	Team	
Driver Side Impact Protection	V8SC-11-022 Schedule G3	Team	
Fire Extinguisher System	105-001-004	Lifeline	Racer Industries
Front Door Window	V8SC-10-006 Schedule G7	Team	
Passenger, Rear Door Skin Layup & Front Guard Layup	V8SC-10-005 Schedule G5	Team	
Rear Diffuser Absorber	75RRDF01-300 V8SC-11-022 V8SC-11-022	Cellbond CG Composites Admired Composites	Cellbond CG Composites Admired Composites
Rear Quarter Panel Layup	V8SC-10-003 Schedule G6	Team	

10. Composites Components

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

SCHEDULE G3. SIDE IMPACT PROTECTION STRUCTURE

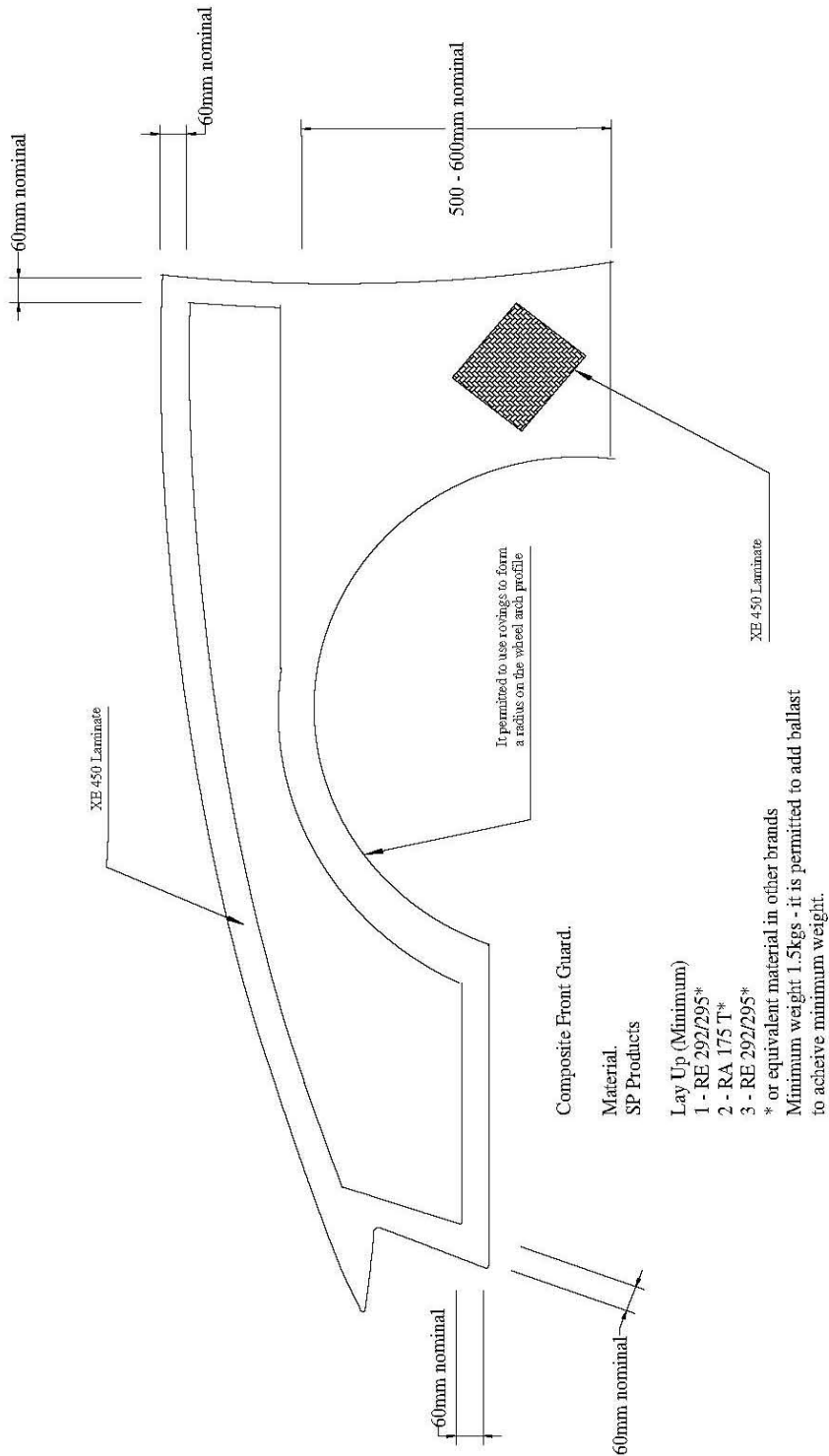


SCHEDULE G4. DRIVER DOOR SKIN LAYUP**Composite Driver Door Skin**

Minimum Layup

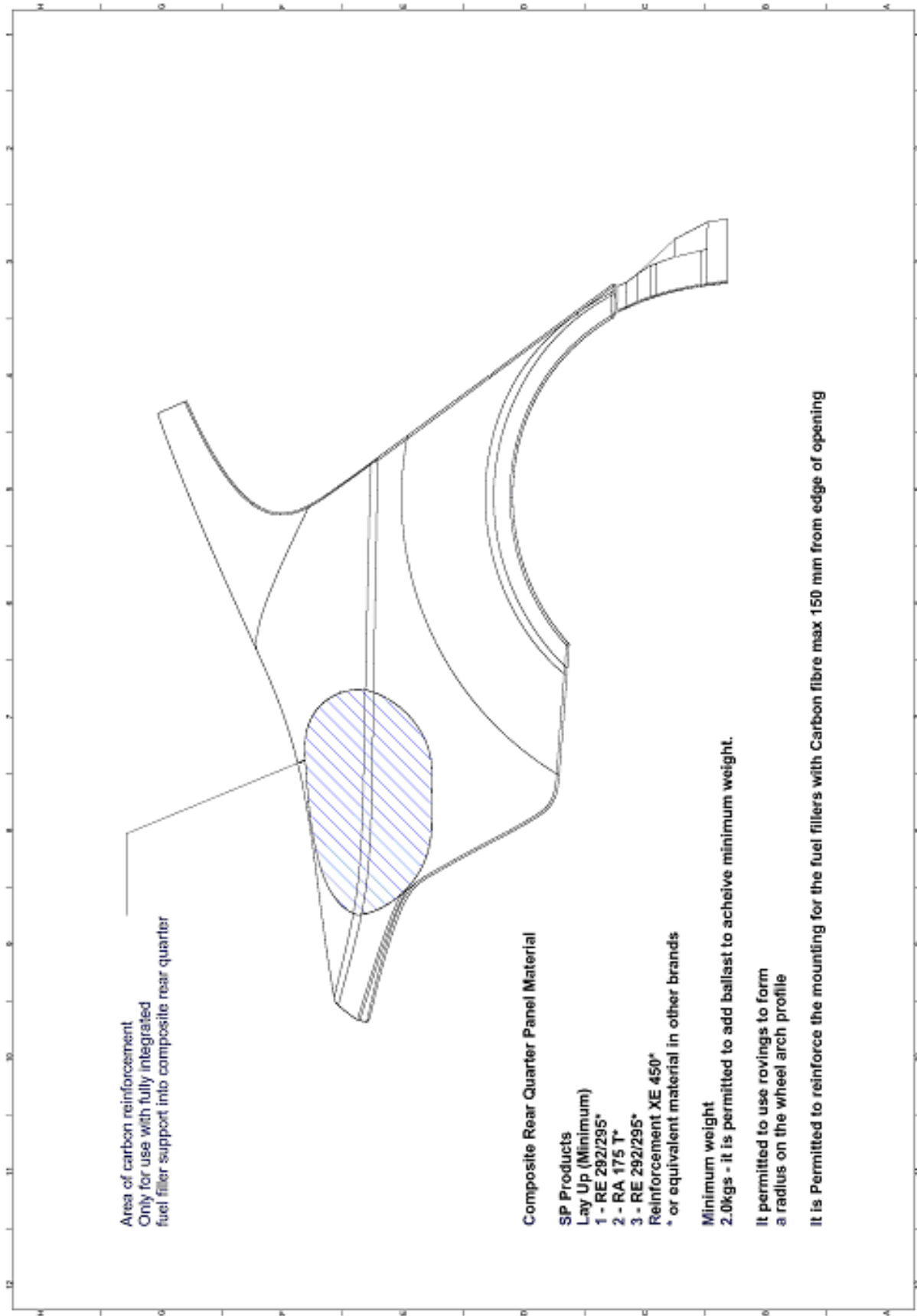
1-	Twaron T750/2 460gsm	Plain weave 0/90deg	0.65mm thick	all over
2-	Twaron T750/2 460gsm	Plain weave 45/45deg	0.65mm thick	partial (central area)
3-	Twaron T750/2 460gsm	Plain weave 0/90deg	0.65mm thick	all over

SCHEDULE G5. FRONT GUARD, FRONT LEFT DOOR SKIN, REAR DOOR SKIN LAYUP

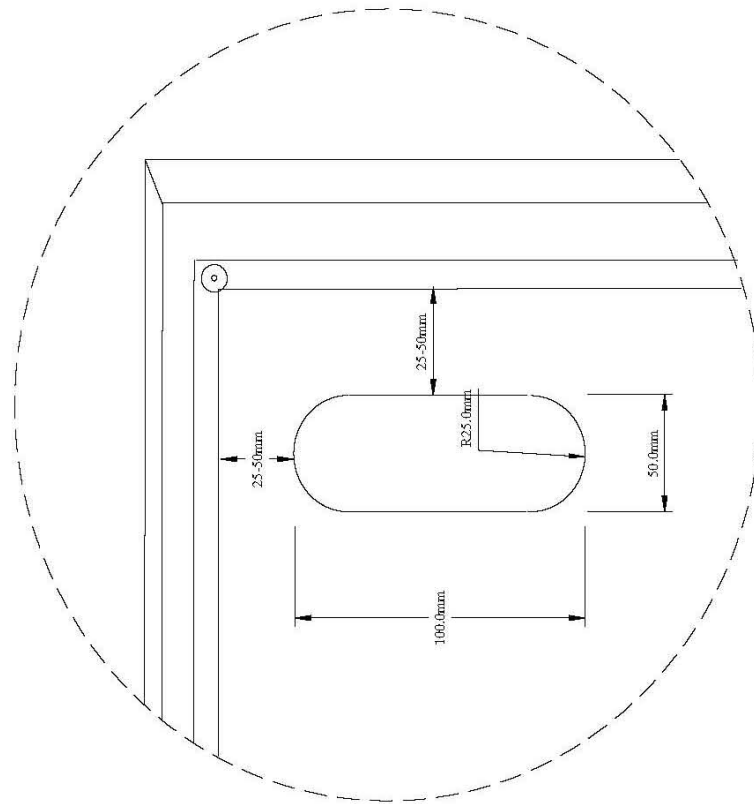


The reinforcement laminate is required to be used from the perimeter of the guard to the outer surface as in the illustration.

Additional material may be used when repairs are required

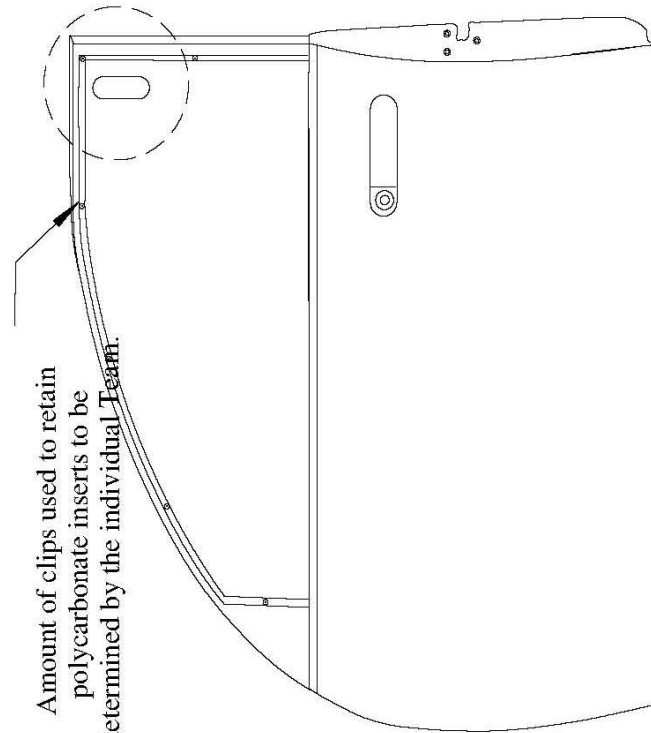
SCHEDULE G6. REAR QUARTER PANEL LAYUP


SCHEDULE G7. 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.



1. Not in Use

2. Not in Use

SCHEDULE G9. LEG PROTECTION 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 G10. AIRJACK TIMER

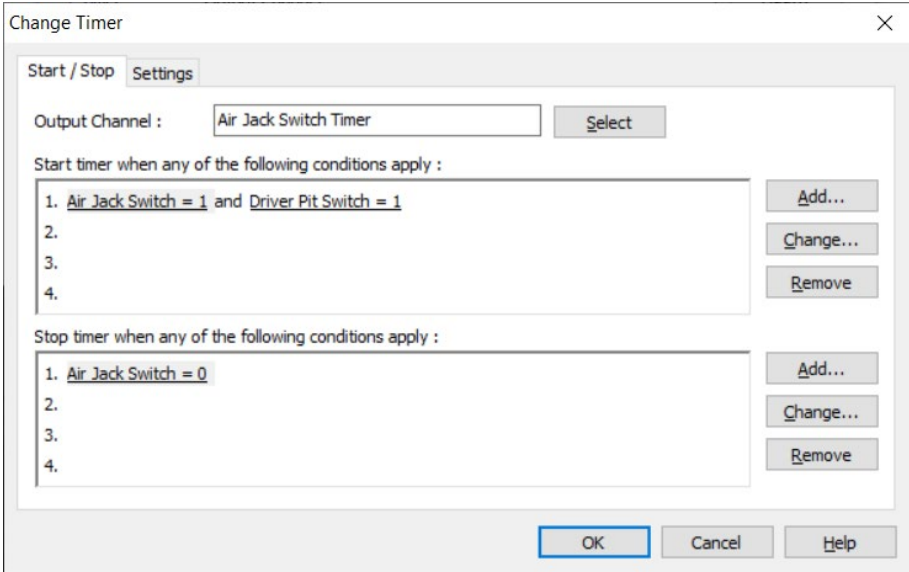
1. Airjack Switch

The airjack switch is to be the channel assigned to pin “DIG2” in the data logger’s connections.
Calibration Low volts = On default 0

2. Airjack Switch Timer

Please use a time channel with a base resolution of 0.01s for the output of the timer.

Below is the required configuration for the timer:



Change Timer

Start / Stop Settings

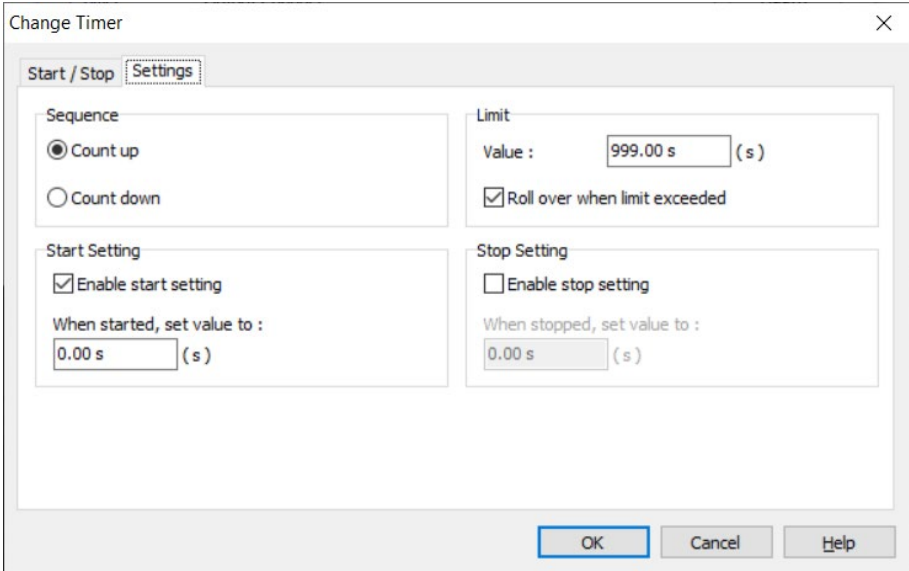
Output Channel : Air Jack Switch Timer

Start timer when any of the following conditions apply :

1. Air Jack Switch = 1 and Driver Pit Switch = 1
- 2.
- 3.
- 4.

Stop timer when any of the following conditions apply :

1. Air Jack Switch = 0
- 2.
- 3.
- 4.



Change Timer

Start / Stop Settings

Sequence

Count up

Count down

Limit

Value : 999.00 s (s)

Roll over when limit exceeded

Start Setting

Enable start setting

When started, set value to : 0.00 s (s)

Stop Setting

Enable stop setting

When stopped, set value to : 0.00 s (s)

SCHEDULE G11. TELEMETRY

1. Transmission Control

User condition, titled “Carrier Detect Timer”

Change User Condition

Condition

Momentary Activate - Deactivate

Activate the output channel when any of the following conditions apply :

1. Carrier Detect ≥ 1 (for 90.00 s)
- 2.
- 3.
- 4.
- 5.

Deactivate the output channel when any of the following conditions apply :

1. Carrier Detect = 0 (for 4.00 s)
- 2.
- 3.
- 4.
- 5.

6 comparisons available

Output Channel

Carrier Detect Timer

Second User condition, titled “Carrier Detect Control”

Change User Condition

Condition

Momentary Activate - Deactivate

Activate the output channel while any of the following conditions apply :

1. Carrier Detect ≥ 1 (for 5.00 s) and Carrier Detect Timer ≥ 1
- 2.
- 3.
- 4.
- 5.

6 comparisons available

8 comparisons available

Output Channel

Carrier Detect Control

Communications Setup for Telemetry

RS232 Communications Setup - Telemetry Only

Parameters Received Channels

Parameters

Device : Telemetry & Control

Format : Fixed Binary

Alignment : Normal

Receive Timeout : 2200 milliseconds

Diagnostic Channel : Comms RS232-1 Diag

RS232 Settings

Baud Rate : 230400 Actual : 234375 Data Bits : 8

Limit to Modem Carrier Rate 1200 Streaming Stop Bits : 1

Transmission Control Channel : Carrier Detect Control Parity : None

Flow Control : None

2. Telemetry Channels

Channel Name (Alias)	Units		Logging Rate (Hz)
(No Group)			
Ambient Pressure Category TPMS	Millibar	mbar	1
Drop Gear Value			1
Engine Speed Limit State			20
Engine Speed Pin Diag			10
Engine Speed Ref Diag			10
Engine Sync Pin Diag			10
Engine Sync Position			20
Engine Sync Pos Diag			10
Fuel Closed Loop Control Aim	Lambda	LA	100
Fuel Closed Loop Control Trim Max	Percent	%	1
Fuel Closed Loop Control Trim Min	Percent	%	1
Fuel Output Cut Average	Percent	%	50
Fuel Output Cut Count			50
GPS Heading	Degree	°	5
GPS Speed	Kilometre/hour	km/h	10
Gear Estimate			50
Gear Shift Ign Cut	Percent	%	50
Gear Source			50
GPS Diagnostic			1
Ignition Output Cut Average	Percent	%	50
Ignition Output Cut Count			50
Ignition Timing	Degree	°	50
LTC 1 Diag			50
LTC 1 Firmware Version Letter			1
LTC 1 Firmware Version Number			1
LTC 1 Serial Number			1
LTC 1 State			50
LTC 2 Diag			50
LTC 2 Firmware Version Letter			1
LTC 2 Firmware Version Number			1
LTC 2 Serial Number			1
LTC 2 State			50
Scrut Drop Gear Ratio			10
Scrut Fuel Pressure			10
Scrut Fuel Pres Breach Time	second	s	10
Scrut Fuel Pres Breach Value	bar	bar	10
Scrut Gear Ratio			10
Scrut Gear Shift Ignition Cut			10
Scrut Gear Shift Position Tolerance			1

Channel Name (Alias)	Units		Logging Rate (Hz)
Scrut Gear Shift Timing			10
Scrut Ignition Timing			10
Scrut Lambda			50
Scrut Lambda Throttle Position Fuel	Lambda	LA	50
Scrut Pit Entry Speed	Kilometre/hour	km/h	1
Scrut Pit Exit Speed	Kilometre/hour	km/h	1
Scrut Pit Sw Exit Delta Dist	metre	m	1
Scrut Pit Sw Exit Delta Time	second	s	1
Speed RL	Kilometre/hour	km/h	20
Speed RR	Kilometre/hour	km/h	20
Susp Pos FL	Millimetre	mm	<u>25</u>
Susp Pos FR	Millimetre	mm	<u>25</u>
Susp Pos RL	Millimetre	mm	<u>25</u>
Susp Pos RR	Millimetre	mm	<u>25</u>
Throttle Pos Fuel Mix Aim	Lambda	LA	100
TPMS WD Counter FL			1
TPMS WD Counter FR			1
TPMS WD Counter RL			1
TPMS WD Counter RR			1
Transponder Update In Range			1
Tyre Temperature FL	Celsius	°C	1
Tyre Temperature FR	Celsius	°C	1
Tyre Temperature RL	Celsius	°C	1
Tyre Temperature RR	Celsius	°C	1

Channel Name (Alias)	Units		Logging Rate (Hz)
GROUP 1			
ADR Status			1
Air Jack Switch Timer			10
Brake Pressure Front	PSI	psi	50
Engine RPM	rev/min	rpm	100
Gear			50
G Lat	G force	G	10
G Long	G force	G	10
GPS Lat	Degree	°	5
GPS Long	Degree	°	5
Ground Speed	Kilometre/hour	km/h	50
Lap Beacon			1
Lap Distance	metre	m	10
Soft Tyre			1
Steered Angle	Degree	°	20
Throttle Pos	Percent	%	100
Wet Tyre			1

Channel Name (Alias)	Units		Logging Rate (Hz)
GROUP 3			
Air Jack Switch			10
Corrected Lap Distance	metre	m	10
Corrected Lap Distance State			10
GPS Lap Distance	metre	m	10
GPS Lap State			10
Pending Track State			10
Race Control Diagnostic			10
Race Control State			10
Scrut Pit Contr Line GPS Time			10
Scrut Pit Entry GPS Time			10
Scrut Pit Exit GPS Time			10
Scrut Pit Sw Activ GPS Time			10
Scrut Pit Sw Deact GPS Time			10
Track State			10
Vehicle State			10

Channel Name (Alias)	Units		Logging Rate (Hz)
GROUP 4			
Airbox Pressure	Millibar	mbar	50
Airbox Temperature	Celsius	°C	50
Anti Roll Bar Position Front			1
Anti Roll Bar Position Rear			1
Battery Voltage ^	Volt	V	1
Battery Voltage Data Logger	Volt	V	10
Bit Combine 1 §			10
Bit Combine 2 §			10
Bit Combine 3 §			10
Bit Combine 4 §			10
BR2 Lap Beacon Number			20
Brake Bias Position			5
Brake Bias %		%	10
Brake MC Travel Front	Millimetre	mm	20
Brake MC Travel Rear	Millimetre	mm	20
Brake Pressure Rear	PSI	psi	20
Cabin Temp *	Celsius	°C	1
CAN 1 Bus Utilisation			10
CAN 1 Receive Error Count			10
CAN 1 Transmit Error Count			10
CAN 2 Bus Utilisation			10
CAN 2 Receive Error Count			10
CAN 2 Transmit Error Count			10
CAN 3 Bus Utilisation			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
CPU Usage Data Logger	Percent	%	10
CPU Usage ECU	Percent	%	10
Data Logger Supply 5V	Volt	V	10
Data Logger Supply 8V	Volt	V	10
Display Page ^^			1
Driver Cool suit	Celsius	°C	1
Driver Fuel Mix Aim Trim Sw			5
Driver Pit Switch			20
Driver Trim Switch Keypad			5

Channel Name (Alias)	Units		Logging Rate (Hz)
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 Run Time	Second	s	1
Engine Run Time Hours Total			1
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
Fuel Closed Loop Control Bank 1 Trim	Percent	%	50
Fuel Closed Loop Control Bank 2 Trim	Percent	%	50
Fuel Closed Loop Diagnostic			50
Fuel Closed Loop State			50
Fuel Flow †	Millilitre/ second	ml/s	10
Fuel Mix Aim Driver Trim State			10
Fuel Mixture Aim Driver Trim †††	Percent	%	1
Fuel Mixture Aim State			20
Fuel Mixture Aim ***	Lambda	LA	20
Fuel Pot Level	litre	l	10
Fuel Pressure	bar	bar	20
Fuel Pump switch/mode			1
Fuel Temperature	Celsius	°C	1
Fuel Used	litre	l	5
Fuel Used ECU	litre	l	5
Fuel Used per Lap	litre	l	1
Fuel Used Total	litre	l	1
Fuel Used EOL Pit §	litre	l	1
Fuel Used EOL	litre	l	1
Gear Lever	Newton	N	50
Gear Lever Diagnostic			20
Gear Position Diagnostic			50
Gear Position Sensor	Percent	%	50

Channel Name (Alias)	Units		Logging Rate (Hz)
Gear Position Sensor Diagnostic			50
Gear Position Sensor Voltage	Volt	V	50
Gear Position Tracking Voltage	Volt	V	50
Gear Shift Diagnostic			20
GPS Date			1
GPS Time			1
Helmet Temp **	Celsius	°C	1
G Vert			10
Lambda 1	Lambda	LA	50
Lambda 1 Norm	Lambda	LA	50
Lambda 2	Lambda	LA	50
Lambda 2 Norm	Lambda	LA	50
Lap Number			1
Lap Time	Second	s	1
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
Mode Switch 1 §			1
Mode Switch 2 §			1
PDM Current 1 Main Pump 1 †	Amp	A	5
PDM Current 2 Main Pump 2 †	Amp	A	5
PDM Current 3 Reserve Pump	Amp	A	<u>5</u>
PDM Current 4 Coils †	Amp	A	5
PDM Current 5 M190 †	Amp	A	5
PDM Current 6 Starter	Amp	A	5
PDM Current 7 Trans Fan	Amp	A	5
PDM Current 8	Amp	A	5
PDM Current 9 Wiper	Amp	A	5
PDM Current 10 Wiper	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 Current 14 Brake Lights †	Amp	A	5
PDM Current 15 Indicators	Amp	A	5
PDM Current 16 Lights †	Amp	A	5
PDM Current 17 Lights †	Amp	A	5
PDM Current 18 Line Lock †	Amp	A	5

Channel Name (Alias)	Units		Logging Rate (Hz)
PDM Current 19 Cameras ‡	Amp	A	5
PDM Current 20	Amp	A	5
PDM Current 21	Amp	A	5
PDM Current 22 Alternator	Amp	A	5
PDM Current 23	Amp	A	5
PDM Current 24 Switch Panel	Amp	A	5
PDM Current 25 Drink ‡	Amp	A	5
PDM Current 26 Helmet ‡	Amp	A	5
PDM Current 27 Cool Suit ‡	Amp	A	5
PDM Current 28 Hi Brake Light	Amp	A	5
PDM Current 29 Lift Pump 1 5 ‡	Amp	A	5
PDM Current 30 Lift Pump 2 ‡	Amp	A	5
PDM Current 31 Lift Pump 3 ‡	Amp	A	5
PDM Current 32 Lift Pump 4 ‡	Amp	A	5
PDM Total Current ‡	Amp	A	50
PDM Status 1 Main Pump 1 ‡			10
PDM Status 2 Main Pump 2 ‡			10
PDM Status 3 Reserve Pump ‡			10
PDM Status 4 Coils ‡			10
PDM Status 5 M190 ‡			10
PDM Status 6 Starter			10
PDM Status 7 Trans Fan ‡			10
PDM Status 8			10
PDM Status 9 Wiper			10
PDM Status 10 Wiper			10
PDM Status 11 Radio			10
PDM Status 12 MoTeC Devices			10
PDM Status 13 Tail Lights			10
PDM Status 14 Brake Lights ‡			10
PDM Status 15 Indicators			10
PDM Status 16 Lights ‡			10
PDM Status 17 Lights ‡			10
PDM Status 18 Line Lock ‡			10
PDM Status 19 Cameras ‡			10
PDM Status 20			10
PDM Status 21			10
PDM Status 22 Alternator			10
PDM Status 23			10
PDM Status 24 Switch Panel			10
PDM Status 25 Drink ‡			10

Channel Name (Alias)	Units		Logging Rate (Hz)
PDM Status 26 Helmet ‡			10
PDM Status 27 Cool Suit ‡			10
PDM Status 28 Hi Brake Light			10
PDM Status 29 Lift Pump 1 5 ‡			10
PDM Status 30 Lift Pump 2 ‡			10
PDM Status 31 Lift Pump 3 ‡			10
PDM Status 32 Lift Pump 4 ‡			10
PDM Voltage 1 Main Pump 1	Volts	V	1
PDM Voltage 2 Main Pump 2	Volts	V	1
PDM Voltage 3 Reserve Pump	Volts	V	1
PDM Voltage 4 Coils	Volts	V	1
PDM Voltage 5 M190	Volts	V	1
PDM Voltage 6 Starter	Volts	V	1
PDM Voltage 7 Trans Fan	Volts	V	1
PDM Voltage 8	Volts	V	1
PDM Voltage 9 Wiper	Volts	V	1
PDM Voltage 10 Wiper	Volts	V	1
PDM Voltage 11 Radio	Volts	V	1
PDM Voltage 12 MoTeC Devices	Volts	V	1
PDM Voltage 13 Tail Lights	Volts	V	1
PDM Voltage 14 Brake Lights	Volts	V	1
PDM Voltage 15 Indicators	Volts	V	1
PDM Voltage 16 Lights	Volts	V	1
PDM Voltage 17 Lights	Volts	V	1
PDM Voltage 18 Line Lock	Volts	V	1
PDM Voltage 19 Cameras ‡	Volts	V	1
PDM Voltage 20	Volts	V	1
PDM Voltage 21	Volts	V	1
PDM Voltage 22 Alternator	Volts	V	1
PDM Voltage 23	Volts	V	1
PDM Voltage 24 Switch Panel	Volts	V	1
PDM Voltage 25 Drink	Volts	V	1
PDM Voltage 26 Helmet	Volts	V	1
PDM Voltage 27 Cool Suit	Volts	V	1
PDM Voltage 28 Hi Brake Light	Volts	V	1
PDM Voltage 29 Lift Pump 1 5	Volts	V	1
PDM Voltage 30 Lift Pump 2	Volts	V	1
PDM Voltage 31 Lift Pump 3	Volts	V	1
PDM Voltage 32 Lift Pump 4	Volts	V	1
Power Steering Pressure	PSI	psi	100

Channel Name (Alias)	Units		Logging Rate (Hz)
Power Steering Temperature	Celsius	°C	1
Scrut Lambda Bk1 Breach %	Percent	%	1
Scrut Lambda Bk2 Breach %	Percent	%	1
Scrut Lambda Bk1 Breach Time	Second	s	50
Scrut Lambda Bk1 Breach Value	Lambda	LA	50
Scrut Lambda Bk2 Breach Time	Second	s	50
Scrut Lambda Bk2 Breach Value	Lambda	LA	50
Sensor ID FL			1
Sensor ID FR			1
Sensor ID RL			1
Sensor ID RR			1
State Gear Shift			50
State Ignition Cut			50
State Ignition Timing			50
Speed FL	Kilometre/hour	km/h	20
Speed FR	Kilometre/hour	km/h	20
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	50
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
Vehicle Odometer	Kilometre	km	1

- * Cabin Temp-must be the signal from the sensor located on the following tube: V8SC-SM-01.
- ** Helmet Temp - must be the signal from the sensor located in the airstream going to the Driver's helmet. This is only required to be transmitted if a sensor is installed.
- *** This channel must be "Fuel Mixture Aim – Hi Res" as received from the ECU in the 0x6C0 message block.
- † Fuel Flow - Teams are free to select the source of this channel.
- ††† Fuel Mixture Aim Driver Trim must originate from message ID 0737 of the 0x730 message block.
- ‡ PDM output related channels that **must be** transmitted.
- ^ Battery Voltage - Must be PDM voltage
- ^^ Display Page – output channel from the display selection tab of the display set-up in dash manager.
- § Channel may be ignored if a representative channel is not generated.

