



MSA NR VW CHALLENGE REGIONAL REGULATIONS

VERSION 1

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REVIEW AND AMENDMENTS

Motorsport South Africa (MSA) will periodically review these rules and will present the revised version to all members for agreement to publish the updated version.

Amendments and updates to the rules will be recorded in the Amendment Record, detailing the updated version, date of approval of the amendment and a short summary of the amendment.

AMENDMENT RECORD

<i>Modified SSR / Art</i>	<i>Date Applicable</i>	<i>Date of Publication</i>	<i>Clarifications</i>

1. VALIDITY OF THESE REGULATIONS

These regulations shall apply for the calendar year of 2026. The Championship is held under MSA's General Competition Rules, Standing Supplementary Regulations for Car Circuit Racing, as well as these regulations.

Although care was taken to cover all possible modifications and allowances, "grey" areas might still appear. The VW Challenge Committee ("the Committee") reserves the right to allow, or not allow, such modifications not covered. Competitors are encouraged to point out any grey areas to the Committee.

2. DEFINITION

"VW Challenge" - A class of racing that complies with the following regulations:

2.1. Aim of the Championship

To declare an overall Northern Regions Motorsport "VW Challenge" Champion and a Northern Regions Champion in each class. In addition, a Masters Champion, based on position in the overall Championship, will also be declared.

2.2. Controllers of the Championship

The Controllers of the 2026 "VW Challenge" Championship will be the MSA Northern Regions Motorsport Committee, together with the "VW Challenge" Club.

2.3. Practice/Testing

No 'away race' circuit may be used or hired for practice/testing, by either the competitor or their vehicle, from midnight on the Saturday of the previous race meeting prior to a scheduled Championship race meeting at the particular circuit, until the start of official practice as detailed in the SRs for the event in question (an 'away race' is deemed to be one (1) held at Dezzi, Phakisa, East London, Aldo Scribante, Killarney and Maputo). Competitors may only drive in the official VW Challenge Practice Sessions with their race car or similar car at away races, whether they have entered in additional categories or not.

2.4. Spare or 'T' cars

No spare or 'T' cars are allowed. The car used by the competitor in his/her first official practice at a race meeting is the car nominated by the competitor to be used for the rest of the event in question.

2.5. Qualifying and Racing

- 2.5.1. There shall be two (2) races at each race meeting, except where a *force majeure* event prevents a second race from being completed, in which case the race meeting may be concluded with 1 race.
- 2.5.2. Races shall be not less than twenty-four (24) kilometres in length and will take place from a standing start (See SSR 38). The Qualifying session shall be not less than twenty-five (25) minutes (split up into 2x sessions of 10 minutes each with a five (5)-minute break between sessions. The Clerk of the Course (CoC) will allocate each session to the relevant classes dependant on the size of entry on the day) . In the event that a Qualifying practise session is abandoned before six (6) minute, forty (40) seconds (66%), the fastest lap time in the last practise session or Championship points may be used to determine grid positions, and shall be announced and determined at the discretion of the CoC.
- 2.5.3. Grid positions for Race 1 will be determined according to the fastest lap times posted during the official qualifying session. The starting positions for Race 2 shall be determined by the fastest lap time in the first heat.
- 2.5.4. Non-qualifiers will start from the back of their class on the grid. Should there be more than one (1) non-qualifier, their grid positions will be determined by the current Championship points standing of the competitor.
- 2.5.5. Classes will be separated on the starting grid by at least two (2) rows for all races but can be reduced at the discretion of the CoC. However, classes B and T will have a combined grid.
- 2.5.6. Qualifying sessions will take place and be conducted per instructions of the SRs of the day.
- 2.5.7. The organisers must allocate at least forty-five (45) minutes of practice sessions to VW Challenge prior to the commencement of official qualifying, and such sessions shall have official timing. All competitors must have timing transponders fitted for each practice session (if timing transponders are available).
- 2.5.8. A lap board will be present and shown at the start or finish line at every race meeting displaying the number of remaining laps of that heat.
- 2.5.9. If classes are to be split for their respective races the organisers will allocate another race between the split race to allow officials time to complete their duties in Parc Fermé before the split race.
- 2.5.10. In case of a safety car intervention, the leaders of class B and/or class C are required to maintain a minimum distance of five (5) car lengths and a maximum distance of ten (10) car lengths from the car in front of them. All other competitors should comply with SSR 45 x).

2.6. Championship Scoring

- 2.6.1. Points will be awarded on 10-8-6-5-4-3-2-1 basis. In order for any competitor to score full points there must be at least eight (8) starters per class. Should a class not have eight (8) starters points will be awarded on a sliding scale, dropping the highest points scoring positions. The minimum number of starters required per class in order to score points is three (3).
- 2.6.2. To be classified as a starter a competitor must participate in any official timed practice session, or in at least one (1) of the two (2) races (heats) listed in the regulations for the event. For avoidance of doubt, a starter is a competitor who cannot request a refund of his/her entry fee in terms of GCR 110 ii).
- 2.6.3. Pole position in each class will score one (1) additional point per class for the first race (heat) only.
- 2.6.4. Fastest race lap of each race (heat) will score one (1) additional point per class. Please note that the point scored for fastest lap will not be scored if a competitor is disqualified for a technical infringement. Should a competitor set the fastest lap but fail to be classified due to a non-finish then the point will be allocated to that competitor.
- 2.6.5. Class points may not be transferred from one (1) class to another.
- 2.6.6. The Champion will be the competitor with the highest number of points scored overall at the end of the racing season, irrespective of class.
- 2.6.7. Any competitor who, for the first time, joins any class in one (1) of the last three (3) events of the Series will be excluded in the scoring towards Championship points but will still classify as a starter.
- 2.6.8. In the case of ties, these will be resolved in favour of the competitor with the greater number of wins, then second places and so on.
- 2.6.9. Competitors may not race in more than one (1) class during any given event.
- 2.6.10. Let N be the number of race meeting during the season. Should there be more than six (6) race meetings during the season, each competitor's N - 1 race meeting results, out of the scheduled N races of the 2026 calendar, shall count for the purpose of determining the final Championship outcome. Refer to GCR 234.

Should there be six (6) or less race meetings during the season, all race meetings will count for the purpose of determining the final Championship outcome.

- 2.6.11. All cars that have completed two thirds of race distance must be weighed after each race, unless otherwise stated by the CoC. Cars need to proceed to Parc Fermé directly after being weighed, unless otherwise stated by the CoC. Should a competitor fail to complete a race and be towed from the circuit, they must report to Parc Fermé and be weighed (subject to the car being able to be pushed onto the scales). Failure to report could result in a penalty unless excused by the CoC or Technical Consultant (TC).

2.7. Eligibility of Competitors

The Championship is open to all paid up members of the "VW Challenge" Club who are holders of a valid MSA Regional or National competition licence. To participate in the Masters Championship a competitor must be in the year he/she turns fifty (50) or older.

Regional competition licences for the VW Challenge Series will only be issued, to fully paid-up members of the Club, in compliance with the provisions of MSA Circuit Racing SSR1, with the exception that approved competitors may be permitted to obtain licences from 01 January of the year in which they turn fifteen (15) years old, regardless of when their birthday falls. The approval of such competitors shall rest with the controllers of the Series, working in conjunction with their appointed Series CoC's and having satisfied themselves as to the competitor's competence and previous racing experience.

2.8. Championship Race Dates

The race dates counting towards the Championship will be as published and/or as amended by MSA.

3. COMPETITORS CODE OF CONDUCT (REFER GCR 154).

- 3.1. Competitors will abide by MSA regulations at all times. No competitor shall drive or conduct himself in a manner that brings the sport and/or Club into disrepute. Competitors remain subject to disciplinary action imposed by MSA and/or the VW Challenge Committee. The competitor will be granted the opportunity to defend their case to the Committee. All members are to comply with GCR 172. Any driver or entrant found guilty of having brought the Series into disrepute may have their membership of the association suspended or even terminated by the VW Challenge Committee, subject to the competitor's normal rights of appeal to MSA.
- 3.2. All competitors must attend drivers briefing. Competitors that do not attend the drivers briefing without approval by the CoC, will be penalised three (3) grid positions for the first race by the CoC.
- 3.3. Dangerous or unsafe driving is not acceptable. Bumping and/or pushing of other vehicles on the circuit is not allowed and any drivers found doing this will be penalised by the CoC in terms of GCR 157. The CoC must consider infringements at previous events which resulted in penalties being imposed, when imposing penalties under this heading.
- 3.4. Any competitor who disadvantages another competitor by bumping the said competitor's vehicle, even unintentionally, that also results in the loss of place(s) during a race, will generally be penalised so as to finish behind the competitor that was disadvantaged. More severe penalties will be applied in the case of repeat offenders at the discretion of the CoC.
- 3.5. The vehicle ahead of any other vehicle in any 'train' of two (2) or more vehicles on the circuit may only change direction once in a straight line from the exit of one (1) corner up to and including the entrance to the next corner unless involved in a genuine overtaking manoeuvre.
- 3.6. When attempting an overtaking maneuver coming into a turn:

3.6.1 Entering the Corner (Phase 1)

- a. Two (2) or more cars entering the braking zone of a corner together, it is expected of each driver that such cars will exit the corner without contact. Neither overly aggressive overtaking nor excessively defensive driving will be tolerated.
- b. The lead car may enter the braking area in which ever way he or she wishes, inside middle or outside.
- c. Once the lead car has entered the braking zone with a car in close proximity the lead car may not change direction or block the challenger. The onus for a clear and clean overtaking manoeuvre lies with the challenger as he or she has a clear view of what is in front and the knowledge of the anticipated line that the lead car should or would take through the corner, unless the lead car makes

a premature or sudden direction change in the braking area any result in contact will be the fault of the challenger.

3.6.2 Middle of the corner (Phase 2)

- a. If the challenger is on the inside in the braking area at the turning point and his front bumper is behind the centre of the leaders B pillar he will withdraw and forfeit the corner to the lead driver to take his normal line.
- b. It must be remembered that the lead car has to and will, turn with the aim of apexing unless the inside challenger is alongside and past the B pillar at the turn in point.
- c. If at the turn in point, the inside car is past the B pillar of the outside car, the car on the outside cannot turn in and take the normal racing line and must give space for the car on the inside to take the corner.
- d. If the outside cars front bumper is past the B pillar of the inside car at the turning point and remains ahead of the B pillar at the midway point of the corner, the inside car must allow the outside car enough room through the corner to exit the corner.
- e. Any bumping of the lead car from the back on the rear bumper is the fault of the challenger.
- f. The 'Y' or 'T' bone by a challenger on the inside of the lead car would be a clear indication of the challenger coming in too fast and stopping against the leader whilst he is turning into a corner. This indicates a clear intention of driving the lead car off the circuit or a seriously over-aggressive move and will be deemed the fault of the challenger provided the lead car abided by the rules above.

3.6.3 Exiting the corner (Phase 3)

- a. From the Apex out, if the outside car is past the inner cars B pillar at the turn in point and remains there at the midway point of the corner, the inner car will take extra care not to drift wide under power forcing the outer car wide and ultimately off the circuit at the exit.
- b. This is exaggerated in front wheel drive cars and drivers should exercise extra caution. The inner car should exercise extra caution to avoid contact i.e. by lifting of the throttle, applying brakes or taking extreme evasive actions. If there is no evidence of evasive action this will certainly count against the inside car. At the same time the outside car must also take extra care not to crowd the inside car inwards of the racing line.

- 3.7 Defensive Driving: The vehicle ahead of any other vehicle on the circuit may only change direction once in a straight line from the exit of one (1) corner up to and including the entrance to the next corner. (e.g. If you exit a corner on the outside and move across to the inside line to defend the next corner, you must stay on the inside line entering the next corner. Where the natural line exiting a corner is on the outside, but the driver then needs to move across the track to the opposite side for entry of the next corner (e.g. from a left-hand corner to a right-hand corner and vice versa), any deviation from the "normal" racing line will count as a direction change.)
- 3.8 To assist the CoC in adjudication of driving conduct, all competing cars must be fitted with at least a forward-facing video camera, in a position determined by the TC and /or the CoC and must also show the position of the steering wheel, during all official practise sessions, qualifying and all races. Should the CoC or Race Officials require footage, during an incident related investigation or at any time during a race weekend for whatsoever reason, from any race participant, and the participant fails to present the requested footage in a reasonable time, he/she will be penalised with a minimum of a three (3) place penalty in the race that they did not have footage of and/or a five (5)-point penalty which will be deducted off the competitor's total Championship points for the season. Repeat offences could include exclusion of the race, races and/or qualifying. This video material is to be made available to race officials in the case of incidents.

The footage must be downloaded onto the Club's laptop which will be made available on any official practice day, official qualifying and during races on race day. The CoC must be able to view the footage with media supplied by the competitor in VLC Media Player for Windows. Any footage that requires special software will not be viewed on the Club's laptop and the onus is on the competitor to convert the footage to the correct format for any official to view. No video footage will be considered if presented via the video cameras built in viewing screen or on a mobile phone or tablet. The competitor is responsible for providing any cables required to copy the footage onto a laptop.

- 3.8.1 In the event of a racing incident where responsibility is unclear and further investigation is required, any competitor/s who fails to provide their own onboard or other relevant video footage when requested shall automatically be deemed at fault. If none of the involved competitors are able to produce the requested footage, the final decision regarding responsibility will rest solely at the discretion of the CoC.
- 3.8.2 Review of Incidents. In the event of conflicting incident reports from competitors and/or marshals and no suitable video material being available on the day, the CoC reserves the right to hold over any decision/sanction until a later date or the following race meeting, or when video evidence (if any) can be obtained. The onus is on the competitor to obtain and make available any video material to support their case. Every competitor is obliged to remain at the circuit for at least one (1) hour after the publishing of the final race results. If a competitor does not make him/herself available when required by the CoC, a decision will be made without consideration of circumstances in incidents relating to that competitor.
- 3.8.3 Yellow/Red Cards will be issued at the discretion of the CoC.
- 3.8.4 It is not required for a yellow card to be issued prior to a red card being issued. The CoC at his sole discretion may issue a competitor with a red card based on the severity of any incident.
- 3.8.5 A yellow or red card will be issued to any competitor found to be guilty of unsporting behaviour. This may include but is not limited to contact between cars in any official practice session or race heat. This card may also be issued for any other rule contravention. Cards carry over to the next season. Cards apply irrespective of class a driver race in.
- 3.8.6 Refer to GCR 175. A competitor may receive a summons to complete an incident report, present their footage, or appear before the Stewards or the CoC by means of either a personal visit to request their attendance, a telephone call, SMS, email, or by means of WhatsApp messages to their relevant class groups at any official practice session or race day. Failure to comply with this instruction will result in a penalty at the discretion of the CoC.
- 3.8.7 Distributing videos or commenting on any form of social media platform while an incident is being investigated is not permitted. The CoC at his sole discretion can issue a penalty if any competitor is found to have contravened this rule.
- 3.9 If yellow card competitors cause an incident during any of the following three (3) race meetings, the CoC will issue a RED card and an immediate one (1) race meeting ban.
- 3.10 When a competitor returns after a one (1) race meeting ban, the yellow card will be applicable for a further three (3) race meetings following the ban.
- 3.11 Yellow cards are to be displayed on the front and rear windows next to the competitor's number and next to the competitor's name on the side windows.
- 3.12 Competitors racing under a yellow card will carry a thirty (30)kg penalty over and above the usual weight for the class.
- 3.13 Any driver or entrant found guilty of having brought the Series into disrepute may have their membership of the Club suspended or even terminated by the Committee, subject to the competitor's normal rights of appeal to MSA.
- 3.14 A competitor receiving a yellow card will lose two (2) Championship points for the first yellow card during a season and five (5) points for any yellow cards after that. A competitor receiving a red card will lose five (5) Championship points.
- 3.15 The Committee will supply a panel consisting of a minimum of one (1) person to overview driver conduct matters when called upon by the CoC. The panel may make recommendations to the CoC. The CoC in turn will make the ultimate and final decision on the matter within the bounds of the rules.

4. SPONSORS DECALS / COMPETITION NUMBER EXPOSURE.

- 4.1. Refer to GCRs 246 and 249.
- 4.2. Series sponsors decals (on the car or race suit) must, on the onus of the competitor, be displayed at all times and must take preference over individual/ personal sponsors. The layout of sticker placement is shown on the VW Challenge website www.vwchallenge.co.za.
- 4.3. Decals may not be tampered with or altered in any way.
- 4.4. Day or Series sponsors decals will be displayed where so decided and indicated by the Committee. Should a competitor need to place the decals in different positions, they need to obtain written approval from the Committee.
- 4.5. The applicable areas are the bonnet, the top and bottom of the windscreen, the top and bottom of the back window, the front and back number plate, the number backings on both front doors and rear windows.

- 4.6. The VW Challenge Committee reserves the right to revise the abovementioned and/or add additional areas for the Series sponsors of the VW Challenge. Numbers must be displayed on the windscreen.
- 4.7. The letters designating the class must be the Committee-specified size. Only Series sponsor decals and branding is allowed on the front windscreen, together with the competitor's number on Black (Class A), Blue (Class B) and Red (Class C) backing.
- 4.8. Any competitor not running the correct stickers in the correct positions will be penalised by thirty (30) seconds in a race and excluded from qualifying.

5. ELIGIBILITY OF CARS

- 5.1. Only Polo 9N, 6R and AW (both hatchback and sedan) are allowed. Requests to allow any other front wheel drive VW car models need to be made in writing to the VW Challenge Committee.
- 5.2. All cars must undergo a Safety Inspection before the car is allowed to race in the season. The Inspection is carried out by the TC and/or Scrutineer who holds the relevant MSA Officials licence. The Safety check is not a check for technical compliance except that the opportunity is used to seal parts as per 6.12. If the car passes the Technical Inspection a sticker will be affixed to the roll cage. The Series TC may remove the sticker if the car is involved in a serious accident and that would then require a new Safety Inspection once the car is repaired.
- 5.3. Cars not meeting the safety and aesthetic standards judged by the Volkswagen Challenge Committee will not be allowed to race.
- 5.4. The TC in consultation with the COC reserves the right to have racing cars inspected at random.

6. GENERAL

- 6.1. Only modifications and allowances detailed herein are allowed.
- 6.2. What is not specifically mentioned as allowed is expressly forbidden.
- 6.3. All components not referred to or specifically mentioned in these regulations will remain in completely standard specification.
- 6.4. Ignorance of the Regulations will not be accepted as an excuse.
- 6.5. If there is any uncertainty as to the legality of the modification it is the responsibility of the competitor to seek clarification in writing from the VW Challenge Committee. This must be done before the vehicle in question is entered in a race.
- 6.6. Notwithstanding GCR 176, any technical infringement found during a technical inspection following a qualifying session or any race will result in exclusion.
- 6.7. All novice competitors must have completed drivers' instruction prior to the first race. The Committee's decision is final as to whether or not the competitor is allowed to race
- 6.8. Any novice will race three consecutive race meetings with a red streamer affixed to the top of the rear window.
- 6.9. The CoC may at his discretion decide where a rookie competitor will be positioned on the grid for the official races e.g. a rookie class A competitor with slower times than Class B competitors may be placed at the back of the Class B grid
- 6.10. When the TC is called upon to inspect a competitor's vehicle or any component thereof at either an official race day or at a technical inspection, the TC's decision on the legality of the vehicle or component will be given in writing to the COC
- 6.11. A three (3) race ban will be imposed on any competitor found to have contravened the rules by means of a technical infringement by the COC more than once in a twenty-four (24)-month period.
- 6.12. The TC will seal the engine, gearbox and any other parts that he deems necessary at the safety inspection. Should the competitor require to remove any seal from the car, this must be done with the TC's approval prior to the said seal being removed. The TC can, at his own discretion, request the part that was sealed with said seal be removed in his presence and the TC can then inspect the part for compliance with the VW Challenge Regulations. The TC needs to inform the CoC before such an inspection is carried out.
- 6.13. If at any stage during the racing season a part sealed at the technical inspection in 6.12 above, is found to be non-compliant with the VW Challenge Technical Regulations, the competitor or any other competitor who raced the car since the seal was fitted, will be penalised retrospectively for all race meetings since the seal was fitted.
- 6.14. In terms of 6.12 and 6.13, If at any stage during the racing season no seal is present it will be deemed to not have been present since the first event after the seal was fitted.
- 6.15. Should the TC notice anything untoward while conducting technical checks in parc ferme unrelated to the specific check being carried out, the TC has the right to inspect such parts. If the part is found to be non-compliant during this check, a penalty will be imposed by the CoC.

- 6.16. Should the TC not be at the track during a race meeting, the CoC can appoint a Scrutineer to fulfil the duties of the TC in terms of rule 15, 16.5.9, 17.5.11 and 18.16.11 or any other duty in these rules.
- 6.17. The TC may attach a GPS logging device to specific cars during any official practice session, qualifying or any race.
- 6.18. For Class A and T, the TC has the right to collect both dash and ECU data during a race weekend. Such data that remains in the possession of the TC will be considered to have been held in Parc Ferme conditions and may be used should anything arise from its closer inspection. The TC may request a technical penalty to be imposed based solely on the evidence of the data within three (3) working days after the event.

7. ADDITIONS AND AMENDMENTS

Any provision unforeseen in drawing up these regulations and specifications, or any additions or amendments to be made thereto, shall be the subject of an appendix to this circular to be issued by MSA which will have the same authority and effect as if it were part of these regulations and specifications.

8. DECLARATION OF CHAMPION

The MSA Northern Regions Motorsport Committee will, at its sole discretion, declare the Winners of the Championship. It is entitled to withhold such declaration if deemed necessary.

9. DATA LOGGING AND TELEMETRY

- 9.1. Data logging of car and competitor performance is allowed in all classes.
- 9.2. Telemetry: With the exception of pit boards or hand signals, any communication, whether this be data and/or voice between the car/driver and the pit whilst driving on the track, is not allowed.

10. CLASSES

There will be four (4) main classes, namely:

- 10.1. Class A: VW 16v 2.0L 16V Turbo
- 10.2. Class B: VW 8v, 2.0L engines with limited modifications
- 10.3. Class C: VW 16v, 1.6L CLSA engines.
- 10.4. Class T: VW 1000cc 12V Turbo
and
- 10.5. Class X: Experimental class, as approved by the Committee, where cars that do not comply technically with Classes A, B or C can be tested from time to time to obtain data for future development of VW Challenge. Cars in Class X will not score towards any Championship. The Committee is responsible to decide in which class each class X car will start.

11. ENGINES (GENERAL)

All specifications are subject to 0.5 % tolerance except where no tolerance is allowed.

The VW Challenge Association will enter into a contract with all "Engine Builders". Such approved engine builders are required to build engines to the VW Challenge Technical Specifications. They need to obtain engine seals from the TC for any new rebuild after entering into the agreement and to seal every motor built / rebuilt with these seals. Should the motor at any stage be checked by the TC and found to be in contravention of the technical specifications, the agreement with the engine builder will be cancelled.

Classes A, B and T

- 11.1. Oil coolers are free of restriction, but the quality of the oil cooler and oil cooler pipes is subject to approval by the TC. This will be checked at the annual Safety Check and randomly during the year.
- 11.2. Spark plugs are free of restriction in class B only
- 11.3. Gaskets are free of restriction.
- 11.4. The breather system must discharge into a catch tank of 1 litre minimum capacity, and this must be empty at the start of practice and each heat.
- 11.5. Sumps may be baffled but remain wet sumps. Engine and gearbox sump plugs, and oil filters must be locked wire.
- 11.6. The position of the radiator may not be changed and must remain as per standard OE with regards to vertical and horizontal positioning. Larger radiators may be fitted.
- 11.7. Alternators must be operative at all times, but all pulleys' sizes may be changed.

- 11.8. Engine mounting position must remain standard, but the material is free. New Polo's must use original or VW Motorsport type engine mountings.
- 11.9. Service items such as filters, gaskets, lubricants, air, fuel and oil filters, bolts, fasteners and bearings may be sourced from any recognised aftermarket supplier of standard replacement parts.
- 11.10. Ducts may be added to increase airflow through radiator but must be fitted without protruding from the grill or any other part of the exterior of the car.

Class C

- 11.11. Oil cooling is free from restriction, but the quality of the oil cooler and oil cooler pipes is subject to approval by the TC. This will be checked at the annual Safety Check and randomly during the year.
- 11.12. Gaskets are free from restriction.
- 11.13. The breather system must discharge into a catch tank of 1 litre minimum capacity, and this must be empty at the start of practice and each heat.
- 11.14. Sumps MUST BE baffled with a design approved by the Committee but remain wet sumps. Engine and gearbox sump plugs, and oil filters must be wire locked. It is recommended that oil should be filled 500ml over the full mark on the dip stick.
- 11.15. The position of the radiator may not be changed and remain as per standard OE with regards to vertical and horizontal positioning.
- 11.16. Alternators must be operative at all times.

12. CYLINDER BLOCKS

- 12.1. Only VW mass-produced blocks available through commercial outlets are allowed. No aluminium blocks may be used in class B or class C.
- 12.2. Engine blocks which may have been damaged may be re-sleeved to return them to the original specifications.

13. BODYWORK AND GENERAL

- 13.1. No built-out panels are allowed, but fender lips may be rolled inwards to accommodate larger tyres.
- 13.2. Class A,B and T - Front valance/cradle may be cut to achieve better airflow and foglamps may be removed in all classes.
- 13.3. Outside shell appearance for all cars must appear original as per Volkswagen SA.
- 13.4. Paint colours may be changed, and sticker patterns applied.
- 13.5. Body parts e.g., doors, boot, bonnets, bumpers must remain visually original externally but may have the insides lightened.
- 13.6. The front and rear spoiler is allowed to be of a type that is mass produced and must be similar in all regards to the standard OE SA spec spoiler for that specific vehicle
- 13.7. Splitters, aerofoils or aerodynamic devices designed to improve down force are not allowed. A VW Polo 6R rear spoiler is allowed. The part number is: 6R0 071 646. A bottom engine cover' (belly pan) from a Polo may be used. It may not have fins built into it.
- 13.8. Taping up or filling gaps in bonnets, doors etc. to aid aerodynamics are not allowed.
- 13.9. Headlights and taillights must remain and be operable. Brake lights and rear indicators must be fully functioning. Class A cars must run with their headlights on during qualifying and races for safety reasons. Class B and C cars must only run with their headlights when the race is declared a wet race or when instructed to by the CoC.
- 13.10. Racing seat and steering wheel are free of restriction but must be securely fitted and technically approved.
- 13.11. Steering column may be lowered and extended but must be technically approved.
- 13.12. Pedals must remain in original position with a maximum additional extension of 10mm towards the driver by fitting a plate or rubber covering on top of the pedals. No further method of extending this reach to the pedals is allowed.
- 13.13. Full roll cages in compliance with GCR 239 are compulsory. The roll cage may protrude through the firewall and be connected to the front shock turrets. Roll cages must have at least six mounting points with at least one (1) diagonal brace and a driver's door bar. A hole must be drilled in the main hoop to enable the Scrutineers to check the pipe wall thickness.
- 13.14. Heater boxes, interior trim and all passenger seats may be removed except for the dashboard, which shall remain standard apart from localised cutting for roll cages but may be an exact replica of the original and of any material.
- 13.15. Any form of instrument cluster may be used. Additional instruments may be fitted to measure engine performance.
- 13.16. Cut-off switches must be fully operational from inside and outside the car and must be clearly marked.
- 13.17. Bonnet lock mechanism(s) must be operable from outside the vehicle and clearly marked, bonnet safety latch and window safety nets must be fitted.

- 13.18. With the exception of windscreens all other glass may be substituted with Lexan with minimum thickness of 3 mm. They must be fitted into the body with standard rubbers or pop rivets which may not be visible. Windscreens must be SABS approved.
- 13.19. The battery may be positioned anywhere in the car. If the battery is positioned in the engine bay, it needs to be fastened securely by means of brackets and the positive terminal must be protected by means of a non-conductive cover. If the battery is positioned within the cabin of the vehicle, it needs to be placed in a non-conductive battery box which is fastened to the body of the vehicle by means of 8mm bolts.
- 13.20. Transponders will be mounted on the roll cage between the rear side window and the roll cage behind the B-Pillar or on the rear side window itself.
- 13.21. Any form of electronic driver aid excluding data logging is strictly forbidden. This includes, but is not limited to, flat shifting using a switch to cut engine revs when the clutch is engaged.
- 13.22 Soft towing straps must be fitted to the front and rear of all cars. OMP soft tow straps or similar.
- 13.23 All vehicles are required to be presented for annual safety and general check to the TC prior to the vehicle participating in its first race of the season. A safety check sticker will be applied to the A pillar roll bar visible from outside for inspection, the sticker will display the year that it is valid for. It is the responsibility of the competitor to ensure that their vehicle has been checked and that a valid sticker is applied.
- 13.24 Seam welding of front fenders / repairing of wheel arches and fender trays will be allowed only due to damage caused by accidents. Any additional welding of the floor pan, not related to accident repairs, is prohibited.
- 13.25 Only FIA 8853-2016 or SFI approved 6-point harnesses are allowed.
- 13.26 FIA or SFI approved Frontal Head Restraints (FHR) must be used at all times.
- 13.27 For Class A 2l Turbocharged only, the centre grill on the front bumper may be removed.

14. FUEL

- 14.1. Only standard 95 Octane petrol, freely available to the South African public, from dispensing pumps at commercial filling stations, at the designated filling station as specified in terms of rule 15.10, is allowed. See GCR 240.
- 14.2. Octane booster, as approved by the Committee, may be used at the coastal races only.
- 14.3. The Committee and/or VW Challenge TC have the authority to nominate participants to use a control fuel as and when supplied. The Participant will be responsible for the payment of the fuel provided.

15. FUEL TESTING

- 15.1. The following test method will apply to all events and classes as approved by MSA and the Committee. The test instrument will be the Digatron FT64 which must be clearly identified by a serial number or identifying mark and will be the only instrument of the day to be used. Only MSA approved TC's may perform fuel testing.
- 15.2. The only calibration on the instrument of the day will be the reading from the reference sample fuel kept by the TC.
- 15.3. The difference in reading between the reference sample that is applicable and the competitor's fuel sample may not be more than 5, this value may be changed by the TC of the event before qualifying. Fuel testing can be done at any time during the event.
- 15.4. The temperature difference may not be more than 2 degrees Fahrenheit. If the temperature is not within limits, the fuel tank of the competitor must be sealed, and the car impounded. The competitor's fuel temperature will be allowed to equalize to the reference sample and a new reading obtained no later than 30 minutes before publication of the final results.
- 15.5. The minimum amount of fuel left in the fuel tank at any time may not be less than 2 litres, the fuel may be decanted into a suitable container as per GCR 240 for the necessary testing to be done.
- 15.6. It is the responsibility of the competitor to be present at all times when readings of the fuel are done and to check with the TC that the fuel used by competitor is within the set parameters.
- 15.7. The CoC may instruct the TC at any time to have competitors fuel replaced with controlled fuel. The participant will be responsible for the payment of the fuel provided.
- 15.8. A penalty of exclusion will apply for any infringement of the above and is not protestable. Repeat offenders will have their race club membership revoked.
- 15.9. A bulletin will be issued by no later than the Wednesday of race week detailing the designated fuel point for each respective racetrack. Competitors will be required to purchase adequate fuel from the designated fuel pump as stipulated in the bulletin. It is advisable to request a receipt when purchasing fuel.

16. CLASS A - 2L 16V TURBO EA888 MOTOR

16.1. GENERAL

Engines supplied by VW Motorsport will be sealed by VW Motorsport and the TC needs to be advised of the seal numbers on such engines. Where a motor is not supplied sealed by VW Motorsport, the motor needs to be presented to the TC, or an approved engine builder nominated by the TC, to check the motor and to then seal it.

Should a sealed motor be required to be repaired, the Committee will appoint a minimum of two (2) approved engine builders who will repair and reseal these motors. The heads of these motors can only be serviced / repaired by van der Linde Developments.

16.2. PISTONS AND RINGS

Only standard commercially available and unmodified 82.5mm pistons and rings may be used.

16.3. CONNECTING RODS

Only standard commercially available and unmodified connecting rods may be used.

16.4. CRANKSHAFTS

Only standard commercially available and unmodified crankshafts may be used.

16.5. FLYWHEEL AND CLUTCH

- 16.5.1. Only standard or equivalent replacement aftermarket clutch and flywheel components may be used.
- 16.5.2. Flywheel –part number PC7 105 269
- 16.5.3. Clutch plate – part number 04L 141 031 A
- 16.5.4. Pressure plate - part numbers 06K 141 025 A
- 16.5.5. Minimum mass of crankshaft flywheel complete with ring gear: 7.20 kg \pm 0.05

16.6. INDUCTION SYSTEMS

- 16.6.1. Only a standard commercially available and unmodified air intake system may be used from cowling duct to cylinder head. Airbox part number 2Q0 129 601 G. Air Intake Duct part number 2Q0 129 509 A.
- 16.6.2. Air filter elements must be fitted at all times, and be standard or the equivalent aftermarket paper construction may be used. None of the filters may be modified in any way.
- 16.6.3. Turbocharger part number 06K 145 654 J.
- 16.6.4. The only Wastegate throttle valve control element that may be used is part number 06K 145 655 B
- 16.6.5. The Dump Valve link arm length must be 188mm \pm 2mm (overall) see dimensions below. Measured hot or cold



- 16.6.6. The only Intercooler that may be used is part number 5Q0 145 803 T).

16.7. CYLINDER HEADS

Cylinder heads must remain standard and no modifications of any type and/or kind are permitted.

16.8. COMPRESSION RATIO

- 16.8.1. Compression ratio may not be modified and must remain standard. The minimum measurement is 11.65:1 No tolerances are allowed.

16.9. CAMSHAFTS

- 16.9.1. Camshafts must remain standard, no modifications of type and/or kind are permitted

- 16.9.2. Camshaft timing must remain standard and no modifications of type and/or kind are permitted and all settings and measurements must remain as per the OE specification.

16.10. GEARBOXES AND DIFFS

- 16.10.1. Only standard and unmodified VW MQ350 6-speed manual shift gear boxes (gearbox code SQZ) are allowed:

	TOOTH COUNT	RATIO
First Gear	49:13	3.7692
Second Gear	48:23	2.0870
Third Gear	47:32	1.4688
Fourth Gear	38:33	1.1515
Fifth Gear	35:30	1.1667
Sixth Gear	32:33	0.9697
Reverse Gear	36 : 13 / 23 : 14	
Final Drive	69:20	3.4500

- 16.10.2. The rubber in the standard gearbox mountings (Upper and lower) may be exchanged for polyurethane. The bottom mounting may not be modified in any other way.
- 16.10.3. Only standard and unmodified differentials are allowed.
- 16.10.4. Only standard and unmodified cable shift gear linkages are to be used.
- 16.10.5. Only standard driveshafts are to be used. LHS Part number: 2Q0 407 271 BG RHS Part number: 2Q0 407 272 BN. The LHS driveshaft may be modified to prevent C.V. joint failure, but the RHS driveshaft must remain unmodified.

16.11. MANAGEMENT SYSTEMS

- 16.11.1. Only Motec M142 or ECU Master Pro management systems are allowed. The ECU's will be locked with a password and only the TC will have access to the management system. All competitors will use the same map.
- 16.11.2. Push to Pass is not allowed.
- 16.11.3. Competitors need to ensure that each official practise session, qualifying or race is logged. These logs must be made available to the TC on request.
The logs must include rpm, requested boost, actual boost, ignition timing and speed per position. Failure to provide logs will result in exclusion.
- 16.11.4. The following sensors must be used and sealed by the TC before qualifying:
- | | | |
|------------|--------------------------------|-------------------|
| 16.11.4.1. | Boost Pressure Sensor (Bottom) | 03G 906 051 E / M |
| 16.11.4.2. | Boost Pressure Sensor (Top) | 038 906 051 R / T |
- 16.11.5. The signal to and from the ECU to the sensors shall may not be tampered with in any way.
- 16.11.6. Boost Control and Limits
The requested (target) boost as recorded in the ECU log may at no stage exceed the following limits:
- (a) Highveld circuits: 0.60 bar
 - (b) Coastal circuits: 0.70 bar
- 16.11.7. A single boost-adjustment potentiometer may be fitted, provided that:
- (a) It is not accessible to the driver when seated and belted; and
 - (b) It adjusts only the ECU's requested boost parameter; and
 - (c) For VW Challenge events, it must be set such that the requested boost limit in 16.11.6 is not exceeded.
- 16.11.8. Short-duration actual boost spikes may occur due to boost-control dynamics. Under normal operating conditions, actual boost must closely follow requested boost.
- (a) Permissible deviation: up to +0.10 bar above requested boost, for a duration not exceeding 2 seconds.
 - (b) Sustained or repeated overboost, or evidence of manipulation of the boost signal (for example, through modified wiring, resistors, or altered scaling), will be deemed non-compliant.

16.12. IGNITION SYSTEMS

- 16.12.1. Only standard and unmodified coil packs are to may be used. part number 06H 905 110 G
- 16.12.2. Only standard specification sparkplugs are to be used. Champion KEC4PYPB and /or VW 06K905601 B/L

16.13. FUEL SYSTEM

- 16.13.1. The fuel system must remain as standard for the specific model of car, except for the addition of a fuel surge tank and high-pressure pump between the factory fuel pump and fuel filter. The fuel surge tank and additional fuel pump must comply with the fuel regulations in the MSA GCRs and Circuit Racing SSRs.
- 16.13.2. Only the standard 6 bar fuel pressure regulators are to be used. Fuel pressure may not exceed 6 bar.
- 16.13.3. Fuel pumps are free
- 16.13.4. Fuel radiators/coolers or cooling of fuel in any way is prohibited
- 16.13.5. Fuel pressure will be checked, this will be done by the Scrutineer and /or TC via the check valve on the fuel rail.

16.14. EXHAUST SYSTEMS

- 16.14.1. Must comply with GCR 245 and must exit at the rear of the car in the original position and direction.
- 16.14.2. The exhaust outlet pipe may not be recessed towards the inside of the bodywork of the vehicle, i.e., recessed further than the bottom part of the bodywork or bumper/spoiler where the exhaust protrudes. The exhaust must also not protrude beyond the perimeter of the vehicle.
- 16.14.3. The exhaust must follow the original route of the standard OE exhaust system.
- 16.14.4. Exhaust downpipe must be a "van der Linde" downpipe as approved by the Committee.
- 16.14.5. Heat shields fabricated from aluminium are allowed on the exhaust manifold and must follow the route of the exhaust manifold and attach to the exhaust branch only.
- 16.14.6. The exhaust manifold may not be coated or wrapped from the flange to the knuckle.
- 16.14.7. The rest of the exhaust may only be a single pipe that must exit at the rear of the car in the original position and may not be larger at any point than 63mm OD, except for the silencer.
- 16.14.8. No silencer is required.
- 16.14.9. The tailpipe after the maximum 63mm outlet of the silencer is free.
- 16.14.10. The standard under car exhaust heat shielding must be fitted from the firewall to the rear bumper (3 pieces).
- 16.14.11. No rigid heat shielding, or reflective plates maybe attached to the exhaust system other than those specified in 16.14.5.

16.15. WHEELS AND TYRES

- 16.15.1. Only VW Motorsport supplied 17" Aluminium Alloy rims are allowed. Rim size is 17 inch, 7J. Part number VW1999 (6RR 601 025 A)
- 16.15.2. The only tyres to be used are 215/45/17 DUNLOP DIREZZA 036.

16.16. SUSPENSION

- 16.16.1 Top shock turrets must remain in standard position except for modifications in terms of 16.14.16
- 16.16.2 Standard VW OE steering rack and standard mounting positions only, power steering may be disconnected. If power steering is used it must be a standard VW part.
- 16.16.3 Bush material is free however must be dimensionally identical to standard items.
- 16.16.4 Pick-up points on body / chassis may not be changed or moved.
- 16.16.5 Steering knuckles must be a standard VW OE part and match the specific model of that vehicle.
- 16.16.6 P2 and P3 may use a rose joint in replacement of the rear control arm bush but must be in the standard position.
- 16.16.7 Ball joints and their mountings may not be slotted. For camber purposes only, P2, P3, may be fitted with ball joint adaptor plates allowing a maximum additional extension per side of 25mm. P2 Polos are allowed to use P3 control arms. The maximum track width must still be adhered to.
- 16.16.8 Droop may be limited.
- 16.16.9 Hubs of 4 or 5 stud type specification are allowed in all classes.
- 16.16.10 Camber/Caster plates with a maximum caster offset of 40 mm are allowed and may be fitted on top or directly below the turret.

- 16.16.11 Standard knuckle must be used without any alteration. Ackerman angle or bump-steer may not be altered.
- 16.16.12 Anti-roll bars and material are free. The roll bar may be fitted remotely in its working principle. The control/s for adjusting the anti-roll bar/s may not be in reach of the driver whilst in his seat. The working of the anti-roll bar may not be adjusted at any time whilst the car is moving, whether automatically, manually, electronically via GPS or any other method. Any change to its setting/s may only occur whilst the car is stationary in the pits.
- 16.16.13 Rear axle may be stiffened by fitting fixed stiffeners.
- 16.16.14 Shock makes AST, Bilstein, Koni, MP Suspension one-way adjustable Ohlin, Gabriel, Monroe, Sachs, Wietec, Armstrong, Spax, AVO, Sax, KW or Traxion coil over type shocks are allowed. Only single bump and single rebound adjustable shocks is allowed.
- 16.16.15 Short rear shock absorbers may be accommodated by adding brackets to top and/or bottom mounting positions.
- 16.16.16 To accommodate long front absorbers front strut tower may be lengthened but 40mm castor offset must still be adhered to.
- 16.16.17 External gas canisters are allowed.
- 16.16.18 Helper springs may be fitted.
- 16.16.19 Spacer/mounting plate may be fitted between stub axle and rear axle assembly to allow for the calliper to be shimmed with stub axle.

16.17 **BRAKES**

- 16.17.1 Boosters may be removed, but the standard VW master cylinder must be retained.
- 16.17.2 Discs may be slotted and/or cross-drilled.
- 16.17.3 Rear brakes can be drums or discs.
- 16.17.4 Friction material is free.
- 16.17.5 Brake balance adjustment is allowed in car within reach of driver.
- 16.17.6 Any standard VW single piston floating calliper, aftermarket brake pads and discs up to a maximum of 312mm diameter allowed.

16.18 **TYRES**

- 16.18.1 Tyres will only be marked by the TC when identified as new and unused. A previously marked tyre will be allowed at the next race and marked once identified.
- 16.18.2 Tyres may not be skimmed. If the TC suspects any tampering, he/she may insist on the tyres being changed for other suitable used tyres that the TC approves.
- 16.18.3 For the first race meeting of the competitor's season, the competitor must start with 4 new tyres for the qualifying session. Should the competitor fail to qualify, the competitor will start the race with these 4 new tyres.
- 16.18.4 The VW Challenge Committee has the authority to appoint a tyre marker official at a race meeting.
- 16.18.5 At any given race meeting, four (4) tyres will be positively identified by the Committee or Scrutineer/TC prior to the start of qualifying and these tyres must be used for the remainder of the race meeting. These marked tyres may not be used in any other category on the day between qualifying and the 2nd race.
- 16.18.6 It is the responsibility of the competitor to ensure their tyres are marked.
- 16.18.7 It is the responsibility of the competitor to ensure that the tyre markings remain on the tyre, as the use of unmarked tyres during the meeting, inclusive of qualifying, can result in the exclusion of the competitor concerned.
- 16.18.8 The only time four (4) new i.e., unmarked tyres may be used is at a competitor's first race of a new race season.
- 16.18.9 At the discretion of the TC/Scrutineer a damaged or defective tyre may be replaced during a race meeting with a tyre of similar wear.
- 16.18.10 In the event of a competitor replacing/building a new car they must transfer their current tyres to their new car.
- 16.18.11 Pressure controlling "pop-off" valves or nitrogen may not be used.
- 16.18.12 Two (2) new tyres must be used at every race meeting for Class A. The new tyres will be marked by the Scrutineer/TC and must remain on the front axles of the car for the duration of the race weekend. Tyres may be moved on same axle i.e. left to right only. The Committee will also exercise the option that additional tyres can be credited if the previous or following race is at an abrasive track.
- 16.18.13 Should another competitor use a car previously raced in the season, that car has to comply with the tyre allocation in terms of 16.18.8 and 16.18.12 for the competitor that raced the car previously. That implies that the new competitor will only be allowed two (2) new tyres in terms of 16.18.12 and not four (4) in terms of 16.18.8.

16.19 SPECIFICATION SHEET

16.19.1 All specifications are subject to 0.5 % tolerance except where no tolerance is allowed. (P2 refers to 9N Polo and Vivo, P3 refers to new 6R Polo, P4 refers to AW Polo).

16.19.2 Ground Clearance: 135 mm

Note: The measurements above are taken with the driver in the car from the centre of the bolt on the front inner lower control arm (standard mounting point) to the ground.

16.19.3 **Front and rear Track Width:**

- This measurement will be taken at the bottom of the wheel (closest to the ground) from the widest part of the outer edge of the rim where it meets the tyre. See Annexure 2
- The widest part of the opposing two-wheel rims, no tolerance, 1740 mm for P2 and P3 and 1770mm for P4.
- The wheelbase of a car may not be increased from the standard wheelbase. Wheelbase is measured from back of rear rim to back of front rim. The wheelbase on the various models shall not exceed:
- Polo P2 (9N) wheelbase 2460mm (plus 5mm) maximum
- Polo P3 (6R) wheelbase 2470mm (plus 5mm) maximum
- Polo P4 (AW) wheelbase 2550mm (plus 5mm) maximum
- Front control arms may not be pushed or spaced forward in any way.
- Vehicles with a sub frame may not modify the sub frame or it's mountings in any way from standard and standard diameter mounting bolts must be used.
- Rear axle mounting points may not be slotted or modified to allow wheelbase to be lengthened or shortened.

16.20 CAR MASS (Including driver)

16.20.1 The vehicle mass is as the car is raced. At no time of the event may a car weigh less than stipulated amount. No tolerance is allowed.

16.20.2 All cars must be weighed after qualifying and after both race heats.

16.20.3 Where the scales being used to weigh race cars at a circuit have been assessed as required by the regulations, they shall be deemed correct at the discretion of the Committee (or its nominated representative/s).

16.20.4 Location of ballast is free of restriction within the cabin area or boot of the vehicle.

16.20.5 Vehicles may not be lightened by the removal of exterior bodywork.

16.20.6 The ballast weights must be bolted securely.

16.20.7 Minimum weight: 1130 kg.

CLASS B - 8V NATURALLY ASPIRATED

17.1 PISTONS AND RINGS

- 17.1.1 Only single squish pad pistons may be used.
- 17.1.2 0.5mm maximum oversize pistons are allowed. 82.5mm is standard.
- 17.1.3 Minimum piston weight with rings and gudgeon pin is 370grams.
- 17.1.4 The pistons may be lightened by removing metal from the underside of the piston.

17.2 CONNECTING RODS

- 17.2.1 Only Standard OE VW connecting rods are to be used. Connecting rods may not be modified other than specified below:
- 17.2.2 Short Block: connecting rods may be lightened and balanced. Minimum weight 550 grams includes bolts and nuts, excludes bearing shells.
- 17.2.3 Long Block: connecting rods may be lightened and balanced. Minimum weight 580 grams includes bolts and nuts, excludes bearing shells.

17.3 CRANKSHAFTS

- 17.3.1 May be balanced and reground.
- 17.3.2 Lightening is allowed by drilling and grinding.
- 17.3.3 Knife edging of webs is not allowed.
- 17.3.4 Side edging thickness of Web must remain standard (casting marks must remain visible).
- 17.3.5 Min weight: 13.5 kg no tolerance is permitted.
- 17.3.6 Only 2000cc crankshaft (92.8 mm stroke) is permitted.

17.4 FLYWHEEL AND CLUTCH

- 17.4.1 Clutch plates are free of restriction apart from only a single plate is permitted.
- 17.4.2 Components may be lightened and balanced.
- 17.4.3 Min weight: Flywheel & pressure plate, excluding pressure plate to flywheel bolts: 7.2 Kg.

17.5 INDUCTION SYSTEMS

- 17.5.1 Additional air pipes may be used to supply the engine air intake with cool air.
- 17.5.2 Air Filter elements are free of restriction.
- 17.5.3 Throttle bodies may be modified to take alternate throttle position sensors.
- 17.5.4 MP9 or 2E manifold and throttle body are permitted.
- 17.5.5 The Inlet manifold may not be gas flowed other than matching the ports to the cylinder head up to 80mm into the manifold. (NB: the inlet manifold only, not the cylinder head).
- 17.5.6 Throttle body must remain standard with the exception of a hole of up to 8mm may be made to aid idling. The Throttle body be modified to take separate throttle position sensors.
- 17.5.7 Standard Polo or Citi Life air filter housing must be used (upper and lower cones in the box may be removed). The inlet hole in the air box may be closed and moved to a different position but has to remain the same internal diameter of 77mm.
- 17.5.8 The standard connecting pipe between the throttle body and air filter housing may be replaced with a non-standard airtight pipe with a maximum internal diameter of 63mm at any point and not exceeding 350mm in length, such as in the picture below:



17.6 CYLINDER HEADS

- 17.6.1 Valves must remain standard except valve stems may be shortened or lengthened.
- 17.6.2 Only standard OE or exact replacement functional hydraulic cam followers (lifters) may be used.
- 17.6.3 Minimum valve stem diameter is 7mm.
- 17.6.4 Only standard Gemtec or 2E, AGG or ADY 8v hydraulic head – max 40 mm intake and 34 mm exhaust valves allowed. Zero tolerance.
- 17.6.5 No gas flowing allowed but only one (1) chamber can be repaired, Cylinder head may be skimmed.
- 17.6.6 Only Standard Gemtec, 2E, AGG or ADY OE valves and valve springs and retainers are allowed. Three (3) seat angles are allowed.

17.7 COMPRESSION RATIO

10.8:1 Maximum. No tolerance.

17.8 CAMSHAFTS

- 17.8.1 The rotary position of the camshaft to the crankshaft may be changed by using an adjustable Vernier pulley.
- 17.8.2 Cam hydraulic duration will be measured with a Checking height of 0.07 mm.
- 17.8.3 Only 288-degree duration (crank angle). Tolerance ± 1.0 degree.
- 17.8.4 Max 11.7mm cam lift.
- 17.8.5 Lobe Separation 108 to 110 degrees. Tolerance ± 1.0 degree.

17.9 GEARBOXES AND DIFFS

- 17.9.1 Only genuine VW 5-speed manual shift gearboxes may be used, as available on local models.
- 17.9.2 No automatic gearshift gearboxes in any form are allowed.
- 17.9.3 No limited slip differentials or differential preloading by shimming or machining is permitted.
- 17.9.4 Short shift gear linkage are allowed.
- 17.9.5 Parts must be VW OE or identical replacement parts.
- 17.9.6 Linkage bushings may be changed for a harder material.
- 17.9.7 Drive shaft lengths may be modified to prevent C.V. joint failure.
- 17.9.8 The inspection plate “green plate” on the side of the gearbox must be wire locked.
- 17.9.9 Synchro rings may be removed.
- 17.9.10 Only 3.94 diff ratio allowed.
- 17.9.11 Only the following gear ratios are allowed:

First Gear	3.455
Second Gear	1.944 or 2.120
Third Gear	1.444
Fourth Gear	1.129
Fifth Gear	0.894 or 0.912

17.10 MANAGEMENT SYSTEMS

Only SA manufactured systems that are freely commercially available are permitted as per list below:

- Dictator
- Perfect Power XMS
- Mr. Turbo EFI 1
- Spitronics
- Gotech MFI X
- PowerMods
- BlueArc
- Sustech

Should a competitor wish to use a locally produced management system not listed above, they need to apply to the Committee for approval.

17.11 IGNITION SYSTEMS

17.11.1 Individual coils per cylinder (coil on plug) are not allowed.

17.11.2 A Wasted Spark Coil Pack may be used

17.12 FUEL SYSTEM

17.12.1 Plastic injector rails may be used.

17.12.2 Fuel pressure regulators are free of restriction.

17.12.3 More than one (1) fuel pump is allowed.

17.12.4 Fuel pumps are free of restriction.

17.12.5 Exterior additional fuel surge tanks are allowed but must comply with the fuel regulations in the relevant GCRs and Circuit Racing SSRs. The competitor must take full responsibility of the installation.

17.12.6 Fuel radiators/coolers or cooling of fuel in any way is not allowed.

17.12.7 Only original spec injectors may be used, part no: 037906031AA or Digifant injector rails, part no: 037133313J may be used.

17.13 EXHAUST SYSTEMS

17.13.1 Exhaust systems material and construction is free of restriction. No ceramic coating (both inside and outside of exhaust) or wrapping any part of the system will be allowed.

17.13.2 Must comply with GCR 245 and must exit at the rear of the car in the original position and direction.

17.13.3 The exhaust outlet pipe may not be recessed towards the inside of the bodywork of the vehicle, i.e., recessed further than the bottom part of the bodywork or bumper/spoiler where the exhaust protrudes. The exhaust must also not protrude beyond the perimeter of the vehicle.

17.13.4 The exhaust may not be larger than 63mm OD from the collector to the silencer and the exhaust must follow the original route of the standard OE exhaust system.

17.13.5 Only one (1) silencer box may be used and must be behind the rear axle, from the silencer back the exhaust is free of restriction.

17.13.6 Standard exhaust heat shields must be fitted where the exhaust passes the fuel tank.

17.14 SUSPENSION

17.14.1 Top shock turrets must remain in standard position except for modifications in terms of 17.14.15

17.14.2 Standard VW OE steering rack and standard mounting positions only, power steering may be disconnected. If power steering is used it must be a standard VW part.

17.14.3 Bush material is free however must be dimensionally identical to standard items.

17.14.4 Original mounting pick-up points on body / chassis may not be changed or moved.

17.14.5 Steering knuckles must be a standard VW OE part and match the specific model of that vehicle.

17.14.6 P2 and P3 may use a rose joint in replacement of the rear control arm bush but must be in the standard position.

17.14.7 Shocks / uprights may be slotted to achieve camber settings only.

- 17.14.8 Ball joints and their mountings may not be slotted. For camber purposes only P2, P3 may be fitted with ball joint adaptor plates allowing a maximum additional extension per side of 25mm. These adaptor plates may not be used to alter the lower control arm angle in any way. P2 Polos are allowed to use P3 control arms. The maximum track width must still be adhered to at all times.
- 17.14.9 Droop may be limited.
- 17.14.10 Hubs of 4 or 5 stud type specification are allowed.
- 17.14.11 Camber/Caster plates with a maximum caster offset of 40 mm are allowed and may be fitted on top or directly below the turret.
- 17.14.12 Ackerman angle may not be altered.
- 17.14.13 No anti-roll bars may be fitted. The rear axle may not be stiffened in any way. -Shock makes Bilstein, Koni, Sax, AST or MP Suspension one-way adjustable Ohlin coil over type shocks are allowed.
- 17.14.14 Short rear shock absorbers may be accommodated by adding brackets to top and / or bottom mounting positions.
- 17.14.15 To accommodate long front absorbers the front strut tower may be lengthened but 40mm castor offset must still be adhered to.
- 17.14.16 External gas canisters are not allowed.
- 17.14.17 Spacer/mounting plate may be fitted between stub axle and rear axle assembly to allow for callipers to be shimmed with stub axle.
- 17.14.18 The position of the rear spring must remain in the factory position. There may only be one (1) spring per mounting point.
- 17.14.19 Helper springs may be fitted.

17.15 BRAKES

- 17.15.1 Boosters may be removed, but standard VW master cylinder must be retained.
- 17.15.2 Only ATE PowerDisc brake discs part number 022 0151 or 325 0113 may be used.
- 17.15.3 Rear brakes are to be discs.
- 17.15.4 Front brake pads are to be only ATE racing pads compound 106. Rear brake pad material is free.
- 17.15.5 Brake balance adjustment is allowed in car within reach of driver.
- 17.15.6 Only standard VW single piston floating calliper with ATE brake pads and ATE PowerDisc discs up to a maximum of 288mm diameter are to be used.

17.16 WHEELS AND TYRES

- 17.16.1 No chrome plated or split rims are allowed. Rim size 15 inch, 7J max. A-line rims as per Annexure 3 may not be used.
- 17.16.2 Only tyres that may be used are 195/55/15 DUNLOP DIREZZA 036.
- 17.16.3 Tyres will only be marked by the Scrutineer/TC when identified as new and unused. A previously marked tyre will be allowed at the next race meeting once identified.
- 17.16.4 Tyres may not be skimmed. If the TC suspects any tampering, he may insist on the tyres being changed for other suitable used tyres that the TC approves.
- 17.16.5 For the first race meeting of the competitor's season, the competitor must start with 4 new tyres for the qualifying session. Should the competitor fail to qualify, the competitor will start the race with these 4 new tyres.
- 17.16.6 The VW Challenge Committee has the authority to appoint an official tyre marker person at a race meeting.
- 17.16.7 At any given race meeting, four (4) tyres will be positively identified by Scrutineer/TC prior to the start of qualifying and these tyres must be used for the remainder of the race meeting. These marked tyres may not be used in any other category on the day between qualifying and the 2nd race.
- 17.16.8 It is the responsibility of the competitor to ensure their tyres are marked by the tyre marker official before official timed practice.
- 17.16.9 It is the responsibility of the competitor to ensure that the tyre markings remain on the tyre, as the use of unmarked tyres during the meeting, inclusive of qualifying, can result in the exclusion of the competitor concerned.
- 17.16.10 The only time four (4) new i.e., unmarked tyres may be used is at a competitor's first race of a new race season.
- 17.16.11 At the discretion of the TC/Scrutineer a damaged or defective tyre may be replaced during a race meeting with a tyre of similar wear.
- 17.16.12 In the event of a competitor replacing/building a new car they must transfer their current tyres to their new car.
- 17.16.13 Pressure controlling "pop-off" valves or nitrogen may not be used.

- 17.16.14 Two (2) new tyres may be used every race meeting. The new tyres will be marked by the TC and must remain on the front axles of the car for the duration of the race weekend Tyres may be moved on same axle i.e. left to right only. The Committee will also exercise the option that additional tyres can be credited if the previous or following race is at an abrasive track.
- 17.16.15 Should another competitor use a car previously raced in the season, that car has to comply with the tyre allocation in terms of 17.16.10 and 17.16.14 for the competitor that raced the car previously. That implies that the new competitor will only be allowed two (2) new tyres in terms of 17.16.14 and not four (4) in terms of 17.16.10

17.17 SPECIFICATION SHEET

All specifications are subject to 0.5 % tolerance except where no tolerance is allowed. P2 refers to 9N Polo and Vivo, P3 refers to new 6R Polo)

- 17.17.1 Ground Clearance:
- 125 mm minimum
- Note: The measurements above are taken with the driver in the car from the centre of the bolt on the front inner lower control arm (standard mounting point) to the ground.
- 17.17.2 Front and rear Track Width:
- This measurement will be taken at the bottom of the wheel (closest to the ground) from the widest part of the outer edge of the rim where it meets the tyre. See annexure 2.
 - The measurement will be taken at the widest part of the two (2) opposing wheel rims, no tolerance:
 - P2 & P3: 1740mm
 - The wheelbase of a car may not be increased from the standard wheelbase. Wheelbase is measured from back of rear rim to back of front rim. The wheelbase on the various models shall not exceed:
 - Polo P2 (9N) wheelbase 2460mm (plus 5mm) maximum
 - Polo P3 (6R) Hatch wheelbase 2470mm (plus 5mm) maximum
 - Polo P3 (6R) Sedan wheelbase 2552mm (plus 5mm) maximum
 - Front control arms may not be pushed or spaced forward in any way.
 - Vehicles with a sub frame
 - The subframe may not modified in any way from what is standard, this includes the sub frame or it's mountings, standard diameter mounting bolts must be used.
 - Rear axle mounting points may not be slotted or modified to allow wheelbase to be lengthened or shortened.

17.18 CAR MASS (Including driver)

- 17.18.1 The vehicle mass is to be measured as the car is/was raced. At no time of the event may a car weigh less than stipulated amount. There is **No** tolerance.
- 17.18.2 All cars must be weighed after qualifying and after both race heats.
- 17.18.3 Cars need to proceed to Parc Fermé directly after being weighed unless otherwise stated by the CoC. The Committee can at any time adjust the weights to keep competition fair.
- 17.18.4 Where the scales being used to weigh race cars at a circuit have been assessed as required by the regulations, they shall be deemed correct at the discretion of the Committee (or its nominated representative/s).
- 17.18.5 Location of ballast is free of restriction within the cabin area or boot of the vehicle.
- 17.18.6 Vehicles may not be lightened by the removal of exterior bodywork.
- 17.18.7 The ballast weights must be bolted securely.
- 17.18.8 Minimum weight: 1050 kg.

18 CLASS C - 1600 16v CLSA engines.

General

Point scoring in class C is limited to competitors that have not won a National Championship. Any National Champion may not compete in Class C.

18.1 PISTONS AND RINGS

- 18.1.1 Only standard commercially available and unmodified 76.5mm pistons and rings are to be used.

18.2 CONNECTING RODS

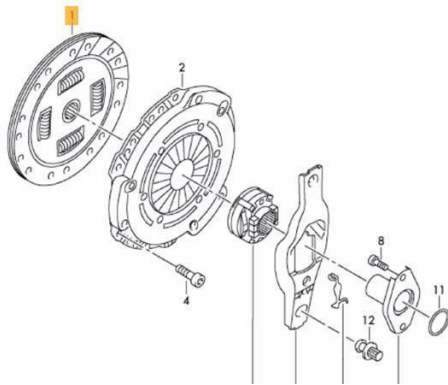
- 18.2.1 Only standard commercially available and unmodified connecting rods are to be used. See Annexure 1 – 318.

18.3 CRANKSHAFTS

- 18.3.1 Only standard commercially available and unmodified crankshafts may be used. See Annexure 1 – 319.

18.4 FLYWHEEL AND CLUTCH

- 18.4.1 Only standard or equivalent replacement aftermarket clutch and flywheel components are to be used. See Annexure 1

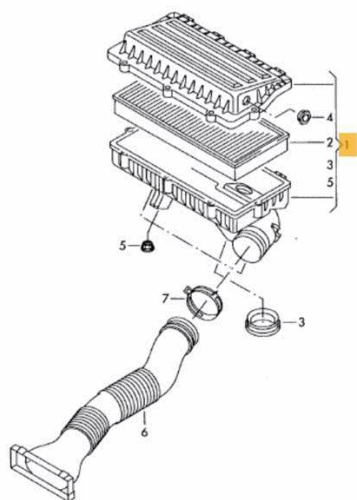


- 18.4.2 Assemblies must remain standard and unmodified.

- 18.4.3 Minimum weight: Flywheel & pressure plate, excluding pressure plate to flywheel bolts: 8.5 Kg.

18.5 INDUCTION SYSTEMS

- 18.5.1 Only standard commercially available and unmodified air intake system is to be used from cowling duct to cylinder head.
- 18.5.2 Air filter elements must be fitted at all times and be standard or equivalent aftermarket of paper construction type and may not be modified in any way.



18.6 CYLINDER HEADS

- 18.6.1 Cylinder heads must remain standard and unmodified See Annexure 1 – 321.: Intake valve: 29.5mm face, 100.6mm +/- 1.5mm, length 5.95mm +/- 0.2mm Stem Exhaust valve: 25.95mm face 100.6mm +/-1.5mm, length 5.95mm +/- 0.2mm Stem

18.7 COMPRESSION RATIO

- 18.7.1 Compression ratio may not be modified from standard of 10.5:1. No tolerance.

18.8 CAMSHAFTS

- 18.8.1 Camshafts must remain standard and unmodified see annexure 1– 325.
 18.8.2 Camshaft timing must remain standard and unmodified and must be as OE specification.
 18.8.3 A cam chain tensioner “non-return” stop may be fitted

18.9 GEARBOXES AND DIFFS

- 18.9.1 Only standard and unmodified VW 1600 CLSA 5-speed manual shift gear boxes (Codes MAH, MAB and UJZ) with a tooth count of:

First Gear	3.4545	11 : 38
Second Gear	1.9545	22 : 43
Third Gear	1.2813	32 : 41
Fourth Gear	0.8810	42 : 37
Fifth Gear	0.6731	52 : 35
Final Drive	4.5333	15 : 68 (MAH)
Final Drive	4.5714	14 : 64 (MAB, UJZ)

- 18.9.2 The rubber in the standard gearbox mountings (Upper and lower) may be exchanged for polyurethane. The mounting may not be modified in any other way.
 18.9.3 Only standard and unmodified differentials are allowed.
 18.9.4 Only standard and unmodified cable shift gear linkages are to be used.
 18.9.5 Only standard and unmodified driveshafts are to be used.

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18.10 MANAGEMENT SYSTEMS

18.10.1 Only the following two (2) management systems may be used:

18.10.1.1 Dictator 60-2 management systems and wiring harnesses supplied by Dictator for VW Challenge are to be used
or

18.10.1.2 PowerMods management systems may be used. Only the wiring harnesses supplied by PowerMods-for VW Challenge are to be used

18.11 IGNITION SYSTEMS

18.11.1 Only standard and unmodified coil on plug coils are to be used or equivalent aftermarket type.

18.11.2 Only standard specification sparkplugs are to be used:

- NGK ZFR6T-11G
- Champion KC8ZMCC
- Bosch FR7HC+

18.12 FUEL SYSTEM

18.12.1 The fuel system must remain as standard for the chassis except for the addition of a fuel surge tank and high-pressure pump between the factory fuel pump and fuel filter. The fuel surge tank and additional fuel pump must comply with the fuel regulations in the relevant GCRs and Circuit Racing SSRs. The competitor must take full responsibility of the installation.

18.12.2 Only standard 4 bar fuel pressure regulators (in filter) may be used. Fuel pressure may not exceed 4 bar.

18.12.3 Fuel pumps are free of restriction.

18.12.4 Fuel radiators/coolers or cooling of fuel in any way is not allowed.

18.12.5 Fuel pressure will be checked by the TC via the check valve on the fuel rail.

18.13 EXHAUST SYSTEMS

18.13.1 Must comply with GCR 245 and must exit at the rear of the car in the original position and direction.

18.13.2 The exhaust outlet pipe may not be recessed towards the inside of the bodywork of the vehicle, i.e., recessed further than the bottom part of the bodywork or bumper/spoiler where the exhaust protrudes. The exhaust must also not protrude beyond the perimeter of the vehicle.

18.13.3 The exhaust must follow the original route of the standard OE exhaust system.

18.13.4 Only association approved exhaust branch manifolds are to be used.

18.13.5 Heat shields fabricated from aluminium are allowed on the exhaust manifold and must follow the route of the exhaust manifold and attach to the exhaust branch only.

18.13.6 The exhaust manifold may not be coated or wrapped from flange to the knuckle.

18.13.7 The rest of the exhaust may only be a single pipe that must exit at the rear of the car in the original position and may not be larger at any point than 57mm OD, except for the silencer.

18.13.8 The silencer must be placed behind the rear axle and must also have an inlet and outlet OD of maximum 57mm and may have no internal megaphone shaped parts.

18.13.9 The tailpipe after the maximum 57mm outlet of the silencer is free.

18.13.10 The standard under car exhaust heat shielding must be fitted from the firewall to the rear bumper (3 pieces).

18.13.11 No rigid heat shielding, or reflective plates maybe attached to the exhaust system other than those specified in 18.13.5.

18.14 SUSPENSION

18.14.1 Top shock turrets must remain in standard position except for modifications in terms of 18.14.20.

18.14.2 Only the standard and unmodified steering rack with standard and unmodified mounting positions may be used

18.14.3 The Power steering may not be disconnected at any time.

18.14.4 Rubber control arm and rear axle bush material may be substituted for polyurethane without and other modification.

18.14.5 Original mounting pick-up points on body/chassis may not be changed or moved.

18.14.6 Steering knuckles must be a standard and unmodified VW OE part and match the specific model of that vehicle.

18.14.7 P2 and P3 may use a rose joint in replacement of the rear control arm bush but must be in the standard position.

18.14.8 Shocks/uprights may be slotted to achieve camber settings only.

- 18.14.9 Ball joints and their mountings may not be slotted. P2 Polos are allowed to use P3 control arms. The maximum track width must still be adhered to.
- 18.14.10 Top and bottom stress bars are allowed.
- 18.14.11 Front and rear suspension droop may be limited.
- 18.14.12 Hubs may be 4 or 5 holes but must use M12 or M14 studs and nuts. No bolts.
- 18.14.13 Ackerman angle may not be altered.
- 18.14.14 No anti-roll bars allowed. The rear axle may not be stiffened in any way.
- 18.14.15 Rear axle must remain standard and unmodified. P2 may use P3 rear axles and vice versa.
- 18.14.16 Camber/Caster plates with a maximum caster offset of 40 mm are allowed and may be fitted on top or directly below the turret.
- 17.18.9 Rear springs must remain in their factory intended positions. They may be height adjustable. There may only be one (1) spring per mounting point.
- 18.14.17
- 18.14.18 Shock absorbers allowed:
 - Non-gas assisted, externally adjustable, 1 way rebound only Koni shocks.
 - Locally assembled, gas assisted Bilstein shocks.
 - Locally assembled, non-adjustable, gas assisted Sax shocks.
 - ARC non-adjustable Street and Pro coil over shocks.

Any Class C Competitor's Shock absorber information / specifications will be available to all Class C competitors.
- 18.14.19 Short rear shock absorbers may be accommodated by adding brackets to top and / or bottom mounting positions.
- 18.14.20 To accommodate long front absorbers front strut tower may be lengthened but 40mm castor offset must still be adhered to.
- 18.14.21 External gas canisters not allowed.
- 18.14.22 Helper springs maybe fitted.
- 18.14.23 Spacer/mounting plate may be fitted between stub axle and rear axle assembly to allow for calliper to be shimmed with stub axle.

18.15 BRAKES

- 18.15.1 Boosters may be removed, but standard and unmodified VW master cylinder must be retained.
- 18.15.2 Only ATE PowerDisc brake discs part number 022 0151 or 325 0113 may be used.
- 18.15.3 Rear brakes can be drums or discs.
- 18.15.4 Front brake pads are to be only ATE racing pads compound 106. Rear brake pad/shoe material is free.
- 18.15.5 Brake balance adjustment is allowed in car within reach of driver.
- 18.15.6 Standard VW single piston floating callipers with aftermarket brake pads and discs up to a maximum of 288mm diameter.
- 18.15.7 Standard OE adjustable brake compensating load valve is allowed.

18.16 WHEELS AND TYRES

- 18.16.1 No chrome plated or split rims are allowed. Rim size 15 inch, 7J max. A-line rims as per Annexure 3 may not be used.
- 18.16.2 The only tyres permitted to be used are 195/55/15 DUNLOP DIREZZA 036.
- 18.17.1 Tyres will only be marked by the TC when identified as new and unused. A previously marked tyre will be allowed at the next race once identified.
- 18.17.2 Tyres may not be skimmed. If the TC suspects any tampering, he may insist on the tyres being changed for other suitable used tyres that the TC approves.
- 18.17.3 For the first race meeting of the competitor's season, the competitor must start with 4 new tyres for the qualifying session. Should the competitor fail to qualify, the competitor will start the race with these 4 new tyres.
- 18.17.4 The VW Challenge Committee has the authority to appoint an tyre marker official at a race meeting.
- 18.17.5 At any given race meeting, four (4) tyres will be positively identified by the Scrutineer/TC prior to the start of qualifying and these tyres must be used for the remainder of the race meeting. These marked tyres may not be used in any other category on the day between qualifying and the 2nd race.
- 18.17.6 It is the responsibility of the competitor to ensure their tyres are marked by the tyre marker official before official timed practice.

- 18.17.7 It is the responsibility of the competitor to ensure that the tyre markings remain on the tyre, as the use of unmarked tyres during the meeting, inclusive of qualifying, can result in the exclusion of the competitor concerned.
- 18.17.8 The only time four (4) new i.e., unmarked tyres may be used is at a competitor's first race of a new race season.
- 18.17.9 At the discretion of the TC/Scrutineer a damaged or defective tyre may be replaced during a race meeting with a tyre of similar wear.
- 18.17.10 In the event of a competitor replacing/building a new car they must transfer their current tyres to their new car.
- 18.17.11 Pressure controlling "pop-off" valves or nitrogen may not be used.
- 18.17.12 Two (2) new tyres may be used at the 3rd, 5th and 7th race meetings. The new tyres will be marked by the TC/Scrutineer and must remain on the front axles of the car for the duration of the race weekend. Tyres may be moved on same axle i.e. left to right only. Tyres may not be banked.
- 18.17.13 The Committee will also exercise the option that additional tyres can be credited if the previous or following race is at an abrasive track.
- 18.17.14 Should another competitor use a car previously raced in the season, that car has to comply with the tyre allocation in terms of 18.16.10 and 18.16.14 for the competitor that raced the car previously. That implies that the new competitor will only be allowed two (2) new tyres in terms of 18.16.14 and not four (4) in terms of 18.16.10

18.18 SPECIFICATION SHEET

All specifications are subject to 0.5 % tolerance except where no tolerance is allowed.

- P2 refers to 9N Polo and Vivo
- P3 refers to new 6R and 6C Polo
- 18.18.1 Ground Clearance: 125mm minimum.
This measurement will be taken with the driver in the car from the centre of the bolt on the front inner lower control arm (standard and unmodified mounting point) to the ground.
- 18.18.2 Front and rear Track Width: 1730mm maximum
This measurement will be taken at the bottom of the wheel (closest to the ground) from the widest part of the outer edge of the rim where it meets the tyre. See annexure 2.
- 18.18.3 Wheelbase
The wheelbase of a car may not be increased from the standard wheelbase. Wheelbase is measured from back of rear rim to back of front rim.
The maximum wheelbase will not be more than:
 - Polo P2 (9N) wheelbase 2460mm (plus 5mm) maximum
 - Polo P3 (6R) wheelbase 2470mm (plus 5mm) maximum
- 18.18.4 Front control arms may not be pushed or spaced forward in any way.
- 18.18.5 Vehicles with a sub frame
 - The subframe may not modified in any way from what is standard, this includes the sub frame or it's mountings, standard diameter mounting bolts must be used.
- 18.18.6 Rear axle mounting points must remain standard and unmodified and may not be slotted or modified to allow wheelbase to be lengthened or shortened.

18.19 CAR MASS (Including driver)

- 18.18.1 The vehicle mass is as the car is raced. At no time of the event may a car weigh less than stipulated. No tolerance is allowed.
- 18.18.2 All cars must be weighed after qualifying and after both race heats.
- 18.18.3 Where the scales being used to weigh race cars at a circuit have been assessed as required by the regulations, they shall be deemed correct at the discretion of the committee (or its nominated representative/s).
- 18.18.4 Should it be necessary to add ballast to attain the required minimum mass, weight(s) added is/are to be bolted securely inside the cabin of the vehicle. (Ballast installation must comply with MSA GCRs and Circuit Racing SSRs. The competitor takes responsibility for the installation thereof.
- 18.18.5 Vehicles may not be lightened by the removal of exterior bodywork.
- 18.18.6 Minimum weight: 1035kg.

19 CLASS T - 1000CC 3 CYLINDER CHZ MOTOR

19.1 GENERAL

Engines supplied by VW Motorsport will be sealed by VW Motorsport and the TC needs to be advised of the seal numbers on such engines. Where a motor is not supplied sealed by VW Motorsport, the motor needs to be presented to the TC, or an approved engine builder nominated by the TC, to check the motor and to then seal it.

Should a sealed motor be required to be repaired, the Committee will appoint a minimum of two (2) approved engine builders who will repair and re-seal these motors. The cylinder heads of these motors can only be serviced / repaired by van der Linde Developments.

19.2 PISTONS AND RINGS

19.2.1 Only standard commercially available and unmodified 76.5mm pistons and rings are to be used.

19.3 CONNECTING RODS

19.3.1 Only standard commercially available and unmodified connecting rods are to be used.

19.4 CRANKSHAFTS

19.4.1 Only standard commercially available and unmodified crankshafts maybe used.

19.5 FLYWHEEL AND CLUTCH

19.5.1 Only standard or equivalent replacement aftermarket clutch and flywheel components are to be used.

19.5.2 Flywheel –part number 036 105 269 M

19.5.3 Clutch plate – part number 03C 141 031 G

19.5.4 Pressure plate - part numbers 03C 141 025 K

19.6 INDUCTION SYSTEMS

19.6.1 Only a standard unmodified air intake system is to be used from cowling duct to cylinder head. Air Box part number 04C129601N.

19.6.2 Air filter elements must be fitted at all times and be standard or the equivalent aftermarket of paper construction and may not be modified in any way.

19.6.3 The only Turbocharger permitted to be used is part number 04E 145 722G .

19.6.4 The only Intercooler permitted to be used is part number 5Q0 145 803 AD.

19.7 CYLINDER HEADS

19.7.1 Cylinder heads must remain standard and unmodified.

19.8 COMPRESSION RATIO

19.8.1 Compression ratio may not be modified from the standard 10.5:1 No tolerance is allowed.

19.9 CAMSHAFTS

19.9.1 Camshafts must remain standard and unmodified.

19.9.2 Camshaft timing must remain standard and unmodified to OE specification.

19.10 GEARBOXES AND DIFFS

19.10.1 Only standard and unmodified VW MQ200 6-speed manual shift gear boxes are allowed:

	TOOTH COUNT	RATIO
First Gear	49 : 13	3.7692
Second Gear	37 : 19	1.9474
Third Gear	41 : 32	1.2813
Fourth Gear	36 : 37	0.9730
Fifth Gear	35 : 45	0.7778
Sixth Gear	34 : 53	0.6415
Final Drive	58 : 16	3.6250

- 19.10.2 The rubber in the standard gearbox mountings (Upper and lower) may be exchanged for polyurethane. The mounting may not be modified in any other way.
- 19.10.3 Only standard and unmodified differentials are allowed.
- 19.10.4 Only standard and unmodified cable shift gear linkages are to be used.
- 19.10.5 Only standard and unmodified driveshafts are to be used.

19.11 MANAGEMENT SYSTEMS

- 19.11.1 Only a Motec M122 or PowerMods management system is allowed. The ECU will be locked with a password and only the TC will have access to the management system. All competitors will use the same map.
- 19.11.2 Push to Pass is not allowed.
- 19.11.3. Competitors need to ensure that each official practise session, qualifying or race is logged. These logs must be made available to the TC on request. The logs must include rpm, requested boost, actual boost, ignition timing and speed per position. Failure to provide logs will result in exclusion.
- 19.11.4. The following sensors must be used and sealed by the TC:
 - 19.11.4.1. Boost Pressure Sensor (Bottom) 03G 906 051 E / M
 - 19.11.4.2. Boost Pressure Sensor (Top) 038 906 051 R / T
- 19.11.5. The signal to and from the ECU to the sensors shall not be tampered with in any way.
- 19.11.6. Boost Control and Limits
 - The requested (target) boost as recorded in the ECU log may at no stage exceed the following limits:
 - (a) Highveld circuits: 1.03 bar
 - (b) Coastal circuits: 1.10 bar
- 19.11.7. A single boost-adjustment potentiometer may be fitted, provided that:
 - (a) It is not accessible to the driver when seated and belted; and
 - (b) It adjusts only the ECU's requested boost parameter; and
 - (c) For VW Challenge events, it must be set such that the requested boost limit in 19.11.6 is not exceeded.
- 19.11.8. Short-duration actual boost spikes may occur due to boost-control dynamics. Under normal operating conditions, actual boost must closely follow requested boost.
 - (a) Permissible deviation: up to +0.10 bar above requested boost, for a duration not exceeding 2 seconds.
 - (b) Sustained or repeated over boost, or evidence of manipulation of the boost signal (for example, through modified wiring, resistors, or altered scaling), will be deemed non-compliant.

19.12 IGNITION SYSTEMS

- 19.12.1 Only standard and unmodified coil on plug coils is to be used or an equivalent aftermarket type.
- 19.12.2 Only standard specification sparkplugs are to be used. The Part No's are VW 04E 905 601 or Bosch Y5KPP332

19.13 FUEL SYSTEM

- 19.13.1 The fuel system must remain as standard for the chassis except for the addition of a fuel surge tank and high-pressure pump between the factory fuel pump and fuel filter. The fuel surge tank and additional fuel pump must comply with the fuel regulations in the GCRs and Circuit Racing SSRs. The competitor must take full responsibility of the installation.
- 19.13.2 Only standard 6 bar fuel pressure regulators (in filter) may be used. Fuel pressure may not exceed 6 bar.
- 19.13.3 Fuel pumps are free of restriction.
- 19.13.4 Fuel radiators/coolers or cooling of fuel in any way is not allowed.
- 19.13.5 Fuel pressure will be checked by the TC via the check valve on the fuel rail.

19.14 EXHAUST SYSTEMS

- 19.14.1 Must comply with GCR 245 and must exit at the rear of the car in the original position and direction.

- 19.14.2 The exhaust outlet pipe may not be recessed towards the inside of the bodywork of the vehicle, i.e., recessed further than the bottom part of the bodywork or bumper/spoiler where the exhaust protrudes. The exhaust must also not protrude beyond the perimeter of the vehicle.
- 19.14.3 The exhaust must follow the original route of the standard OE exhaust system.
- 19.14.4 Exhaust downpipe must be a van der Linde downpipe as approved by the Committee.
- 19.14.5 Heat shields fabricated from aluminium are allowed on the exhaust manifold and must follow the route of the exhaust manifold and attach to the exhaust branch only.
- 19.14.6 The exhaust manifold may not be coated or wrapped from flange to the knuckle.
- 19.14.7 The rest of the exhaust may only be a single pipe that must exit at the rear of the car in the original position and may not be larger at any point than 63 mm OD, except for the silencer.
- 19.14.8 The silencer must be placed behind the rear axle and must also have an inlet and outlet OD of maximum 63 mm and may have no internal megaphone shaped parts.
- 19.14.9 The tailpipe after the maximum 63 mm outlet of the silencer is free.
- 19.14.10 The standard under car exhaust heat shielding must be fitted from the firewall to the rear bumper (3 pieces).
- 19.14.11 No rigid heat shielding, or reflective plates maybe attached to the exhaust system other than those specified in 17.2.15.5.

19.15 SUSPENSION

- 19.15.1 Top shock turrets must remain in standard position except for modifications in terms of 17.3.15
- 19.15.2 Standard VW OE steering rack and standard mounting positions only, power steering may be disconnected. If power steering is used it must be a standard VW part.
- 19.15.3 Bush material is free however must be dimensionally identical to standard items.
- 19.15.4 Original mounting pick-up points on body / chassis may not be changed or moved.
- 19.15.5 Steering knuckles must be a standard VW OE part and match the specific model of that vehicle.
- 19.15.6 P2 and P3 may use a rose joint in replacement of the rear control arm bush but must be in the standard position.
- 19.15.7 Shocks / uprights may be slotted to achieve camber settings only.
- 19.15.8 Ball joints and their mountings may not be slotted. For camber purposes only P2, P3 may be fitted with ball joint adaptor plates allowing a maximum additional extension per side of 25mm. These adaptor plates may not be used to alter the lower control arm angle in any way. P2 Polos are allowed to use P3 control arms. The maximum track width must still be adhered to.
- 19.15.9 Droop may be limited.
- 19.15.10 Hubs of four (4) or five (5) stud type specification are allowed.
- 19.15.11 Camber/Caster plates with a maximum caster offset of 40 mm are allowed and may be fitted on top or directly below the turret.
- 19.15.12 Ackerman angle may not be altered.
- 19.15.13 No anti-roll bars may be fitted. The rear axle may not be stiffened in any way. -Shock makes Bilstein, Koni, Sax, AST or MP Suspension one-way adjustable Ohlin coil over type shocks are allowed.
- 19.15.14 Short rear shock absorbers may be accommodated by adding brackets to top and / or bottom mounting positions.
- 19.15.15 To accommodate long front absorbers front strut tower may be lengthened but 40mm castor offset must still be adhered to.
- 19.15.16 External gas canisters not allowed.
- 19.15.17 Spacer/mounting plate may be fitted between stub axle and rear axle assembly to allow for callipers to be shimmed with stub axle.
- 19.15.18 The position of the rear spring must remain in the factory position. There may only be one (1) spring.
- 19.15.19 Helper springs may be fitted.

19.16 BRAKES

- 19.16.1 Boosters may be removed, but the standard VW master cylinder must be retained.
- 19.16.2 Only ATE PowerDisc brake discs part number 022 0151 or 325 0113 may be used.
- 19.16.3 Rear brakes are discs.
- 19.16.4 The front brake pads used are to be only ATE racing pads, compound 106. Rear brake pad material is free.
- 19.16.5 Brake balance adjustment is allowed in car within reach of driver.
- 19.16.6 Standard VW single piston floating calliper with ATE brake pads and ATE PowerDisc discs up to a maximum of 288mm diameter.

19.17 WHEELS AND TYRES

- 19.17.1 No chrome plated or split rims are allowed. Rim size 15 inch, 7J max. A-line rims as per Annexure 3 may not be used.
- 19.17.2 The only tyres permitted to be used are 195/55/15 DUNLOP DIREZZA 036.
- 19.17.3 Tyres will only be marked by the TC when identified as new and unused. A previously marked tyre will be allowed at the next race once identified.
- 19.17.4 Tyres may not be skimmed. If the TC suspects any tampering, he may insist on the tyres being changed for other suitable used tyres that the TC approves.
- 19.17.5 For the first race meeting of the competitor's season, the competitor must start with 4 new tyres for the qualifying session. Should the competitor fail to qualify, the competitor will start the race with these 4 new tyres.
- 19.17.6 The VW Challenge Committee has the authority to appoint a tyre marker official at a race meeting.
- 19.17.7 At any given race meeting, four (4) tyres will be positively identified by the Scrutineer/TC prior to the start of qualifying and these tyres must be used for the remainder of the race meeting. These marked tyres may not be used in any other category on the day between qualifying and the 2nd race.
- 19.17.8 It is the responsibility of the competitor to ensure their tyres are marked by the tyre marker official before official timed practice.
- 19.17.9 It is the responsibility of the competitor to ensure that the tyre markings remain on the tyre, as the use of unmarked tyres during the meeting, inclusive of qualifying, can result in the exclusion of the competitor concerned.
- 19.17.10 The only time four (4) new i.e., unmarked tyres may be used is at a competitor's first race of a new race season.
- 19.17.11 At the discretion of the TC/Scrutineer a damaged or defective tyre may be replaced during a race meeting with a tyre of similar wear.
- 19.17.12 In the event of a competitor replacing/building a new car they must transfer their current tyres to their new car.
- 19.17.13 Pressure controlling "pop-off" valves or nitrogen may not be used.
- 19.17.14 For class T - two (2) new tyres may be used every race meeting. The new tyres will be marked by the TC and must remain on the front axles of the car for the duration of the race weekend. Tyres may be moved on same axle i.e. left to right only. The Committee will also exercise the option that additional tyres can be credited if the previous or following race is at an abrasive track.
- 19.17.15 Should another competitor use a car previously raced in the season, that car has to comply with the tyre allocation in terms of 17.5.10 and 17.5.14 for the competitor that raced the car previously. That implies that the new competitor will only be allowed two (2) new tyres in terms of 17.5.14 and not four (4) in terms of 17.5.10

19.18 SPECIFICATION SHEET

All specifications are subject to 0.5 % tolerance except where no tolerance is allowed. P2 refers to 9N Polo and Vivo, P3 refers to new 6R Polo)

- 19.18.1 Ground Clearance:
 - 125 mm minimumNote: The measurements above are taken with the driver in the car from the centre of the bolt on the front inner lower control arm (standard mounting point) to the ground.
- 19.18.2 Front and rear Track Width:
 - This measurement will be taken at the bottom of the wheel (closest to the ground) from the widest part of the outer edge of the rim where it meets the tyre. See annexure 2.
 - The widest part of the two (2) opposing wheel rims, no tolerance:
 - P2 & P3: 1740mm
 - The wheelbase of a car may not be increased from the standard wheelbase. Wheelbase is measured from back of rear rim to back of front rim. The wheelbase on the various models shall not exceed:
 - Polo P2 (9N) wheelbase 2460mm (plus 5mm) maximum
 - Polo P3 (6R) Hatch wheelbase 2470mm (plus 5mm) maximum
 - Polo P3 (6R) Sedan wheelbase 2552mm (plus 5mm) maximum
 - Front control arms may not be pushed or spaced forward in any way.
 - Vehicles with a sub frame

- The subframe may not be modified in any way from what is standard, this includes the sub frame or its mountings, standard diameter mounting bolts must be used.
- Rear axle mounting points may not be slotted or modified to allow wheelbase to be lengthened or shortened.

19.19 CAR MASS (Including driver)

- 19.19.1 The vehicle mass is as car is raced. At no time of the event may a car weigh less than stipulated. No tolerance is allowed.
- 19.19.2 All cars must be weighed after qualifying and after both race heats.
- 19.19.3 Cars need to proceed to Parc Fermé directly after being weighed unless otherwise stated by the CoC. The Committee can at any time adjust the weights to keep competition fair.
- 19.19.4 Where the scales being used to weigh race cars at a circuit have been assessed as required by the regulations, they shall be deemed correct at the discretion of the Committee (or its nominated representative/s).
- 19.19.5 Location of ballast is free of restriction and must be within the cabin area or boot of the vehicle.
- 19.19.6 Vehicles may not be lightened by the removal of exterior bodywork.
- 19.19.7 The ballast weights must be bolted securely.
- 19.19.8 Minimum weight: 1050 kg.

ANNEXURE 1

318. CONNECTING ROD

a) Material	<u>Steel</u>	b) Big end type	<u>Split</u>
c) Interior diameter of the big end (without shell bearings)	<u>50.6</u>	+0.1 - 0 mm	
d) Length between axes	<u>138.0</u>	± 0.1 mm	
e) Minimum weight	<u>0.400</u>	g	<u>With cap, bolts and shell bearings</u>

C5-1) Connecting rod from ¾ on big end side



C5-2) Connecting rod from ¾ rear on small end side



319. **CRANKSHAFT**

a) *Type of manufacture*

One piece

b) *Material*

Steel

c) *Manufacturing process*

Cast



Forged



d) *Number of bearings*

5

e) *Type of bearings*

Plain sliding

f) *Diameter of bearings*

50.0

+0
- 0.1 mm

g) *Bearing caps material*

Cast iron

h) *Min. weight of bare crankshaft*

11842

9

C6-1) Crankshaft from ¾ front



C6-2) Crankshaft from ¾ rear



CLASS C FLYWHEEL, CLUTCH AND PRESSURE PLATE



321. CULASSE / CYLINDERHEAD

a) Number

1

b) Material

Aluminium alloy

e) Angle between intake valve and cylinder head gasket plane

22.5

deg \pm 30°

f) Angle between exhaust valve and cylinder head gasket plane

21.0

deg \pm 30°

C8-1) Bare cylinderhead seen from top (camshaft side)



C8-2) Bare cylinderhead seen from underneath (chamber side)



C8-3) Bare cylinderhead seen from intake side



C8-4) Bare cylinderhead seen from exhaust side



C8-5) Bare cylinderhead seen from timing side



C8-6) Bare cylinderhead seen from flywheel side



C8-7) Combustion chamber



325. CAMSHAFT

- | | | | |
|-----------------------------------|---------------------------------|---------------------------------|-------------|
| a) Number | <u>2</u> | b) Location | <u>DOHC</u> |
| c) Drive system | <u>Chain</u> | d) Number of bearings per shaft | <u>3</u> |
| f) Type of valve operation system | <u>Mechanical roller rocker</u> | | |

ANNEXURE 2



ANNEXURE 3

