



REGULATIONS AND SPECIFICATIONS FOR THE 2012 NORTHERN REGIONS MOTORSPORT VW CHALLENGE CHAMPIONSHIP, KNOWN IN THE MEDIA AS THE "GOLDWAGEN CHALLENGE"

MSA NORTHERN REGIONS MOTORSPORT CIRCULAR NR 15/12 (157912/134)

1. VALIDITY OF THESE REGULATIONS

These regulations apply for the calendar year of 2012. 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 modification and allowances, "grey" areas might still appear. The VW Challenge Technical Committee reserves the right to allow or not allow such modifications not covered.

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.

2.2. Controllers of the Championship

The Controllers of the 2012 "VW Challenge" Championship will be the MSA Northern Regions Motorsport Committee, together with the "VW Challenge" branch of the Sports Car Club of South Africa.

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 one week prior to a scheduled championship race meeting at the particular circuit, until the start of official practice as detailed in the SR's for the event in question (an 'away race' is deemed to be one held at Phakisa, Lichtenburg, East London, Aldo Scribante or Killarney).

During official practice (i.e. the Friday morning from the first practice session) a competitor may under no circumstances practice in a session not designated for his/her class. The penalty for a competitor not adhering to these practice rules will be that the offending competitor will start from the back of their class on the starting grid for both races at the affected event.

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. Grid

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 finishing order of the first heat. Non qualifiers will start from the back of their class on the grid. Should there be more than one non qualifier, their grid positions will be determined at the discretion of the CoC. Classes will be separated on the starting grid by two rows for all races or as decided by the CoC. Qualifying will be as per instructions on Pro-Tour SR's.

2.6. Championship Scoring

a. 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).

b. To be classified as a starter a competitor must participate in any official timed practice session, or in at least one of the two races (heats) listed in the regulations for the event.

c. Pole position in each class will score one (1) additional point per class for the first race (heat) only.

d. Fastest race lap of each race (heat) will score one (1) additional point per class.

e. An additional five (5) points will be allocated to the points for the race weekend to each competitor

- who participates in any 'away race' as per clause 2.3 above.
- f. Class points may not be transferred from one class to another.
 - g. The champion will be the competitor with the highest number of points scored overall at the end of the racing season, irrespective of class.
 - h. Any competitor who, for the first time, joins any class in one of the last three events of the series will be excluded in the scoring towards championship points.
 - i. 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.
 - j. Competitors may not race in more than one Class during any given event.
 - k. All of the scheduled races on the Pro-Tour calendar shall count for the purpose of determining the final championship outcome.
- 2.7. Eligibility of Competitors
- The championship is open to all paid up members of the "VW Challenge" branch of the Sports Car Club of South Africa who are holders of a valid MSA regional competition license. Potential competitors who have national circuit licenses will need to apply in writing to the VW Challenge Committee for permission to enter VW Challenge events. This must be approved prior to any entry being accepted.
- Membership fees for 2012 will be R1200.00 for male competitors, R800.00 for female competitors and R 250.00 for social only members. No part time (discounted) memberships will be allowed.
- 2.8. Championship Race Dates
- The race dates counting towards the championship will be as published and/or as amended by Motorsport South Africa.
3. COMPETITORS CODE OF CONDUCT (REFER GCR 154).
- a. 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.
 - b. Dangerous or unsafe driving is not acceptable.
 - c. All cars are to have at least one operational video camera fitted and the footage is to be made available to assist in the decision making during disciplinary hearings.
 - d. Yellow/Red Cards will be issued by the CoC in conjunction with the VW Challenge Disciplinary Committee.
 - e. VW Challenge Committee to ensure that a representative of the disciplinary committee is available to the CoC on Race days.
 - f. The VW Challenge Disciplinary Committee can temporarily withdraw the membership of any competitor. See paragraph 2.7.
 - g. If yellow card competitors cause an incident during the following three (3) race meetings, the CoC in conjunction with the disciplinary committee, will issue a RED card and an immediate one race meeting ban.
 - h. When a competitor returns after a one race meeting ban, the yellow card will be applicable for a further 3 race meetings following the ban.
 - i. 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.
4. SPONSORS DECALS / COMPETITION NUMBER EXPOSURE.
- a. Refer to GCRs 246 and 249.
 - b. Series sponsors decals must, on the onus of the competitor, be displayed at all times and must take preference over individual/ personal sponsors.
 - c. Decals may not be tampered with or altered in any way.
 - d. Day or series sponsors decals will be displayed where so decided and indicated by the VW Challenge Committee.
 - e. 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 passenger windows.
 - f. 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.

- g. 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 class and number.
- h. Any competitor not running the correct stickers in the correct positions will, at the discretion of the CoC, be fined, otherwise penalised or excluded from the race/s.

5. ELIGIBILITY OF CARS

- a. Only right-hand drive VW passenger body shell types (front wheel drive, sedan or hatchback) based on those sold officially through VW dealers in South Africa, will be allowed.
- b. Cars must be registered with the Volkswagen Challenge Technical Committee, and be submitted for inspection to determine their eligibility.
- c. Cars not meeting the safety and aesthetic standards judged by the Volkswagen Challenge Committee will not be allowed to race.
- d. The VW Challenge Committee reserves the right to have racing cars inspected at random.

6. GENERAL

- a. Only modifications and allowances detailed herein are allowed.
- b. What is not specifically mentioned as allowed is expressly forbidden.
- c. All components not referred to or specifically mentioned in these regulations will remain in completely standard specification.
- d. Ignorance of the Regulations will not be accepted as an excuse.
- e. 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 technical committee. This must be done before the vehicle in question is entered in a race.
- f. 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.
- g. Any novice will race three consecutive race meetings with a red streamer affixed to the top of the rear window.

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

- a. Data logging of car and competitor performance is allowed in all classes.
- b. In order to control cost only dash-type data loggers or GPS-type data loggers are allowed.
- c. Any combination of the following specified parameters may be logged during unofficial practice, official practice, qualifying and races.
 - 9.1. Engine:
Oil pressure, oil and water temperature, Fuel pressure and temperature, Exhaust gas temperature and single lambda reading, Battery voltage, RPM.
 - 9.2. Chassis:
Vehicle speed through GPS input, Vehicle speed through input from single rpm sensor mounted on the drive shaft, Lateral, longitudinal and vertical G-forces, Steering input, Throttle position, Front and rear brake line pressures, Ambient temperature, Barometric pressure, Lap times & Brake Switch.
 - 9.3. Telemetry:
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 classes, namely:

10.1. Class A:

VW 8v, 'Long-Block' 1984 modified engines

10.2. Class B:

10.2.1 Class B 1800:

VW 8v, 'Short Block' 1781cc engines with limited modifications

10.2.2 Class B 2000:

VW 8v, 'Long-Block' or 'Short Block' 1984cc engines with limited modifications

10.3 Class C:

VW 8v, Long-Block' 1984cc engines with limited modifications

10.4 Class D:

VW 8v, 'Short Block' 1595cc engines with limited modifications

11 ENGINES (GENERAL)

Engine specifications and general measurements are available from the Technical Committee. All specifications are subject to 0.5 % tolerance except where no tolerance is allowed.

- a. Oil coolers are free of restriction.
- b. Spark plugs are free of restriction.
- c. Gaskets are free of restriction.
- d. 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.
- e. Sumps may be altered but remain wet sumps. Engine and gearbox sump plugs and oil filters must be wire locked.
- f. The position of the radiator may not be changed and remain as per standard OE with regards to vertical and horizontal positioning. Larger radiators may be fitted.
- g. Alternators must be operative at all times, but all pulleys sizes may be changed.
- h. Engine mounting position must remain standard, but the material is free. New Polo's must use original or VW Motorsport type engine mountings. For new models (Golf4/5 and Beetle) 2 out of 3 engine mountings must remain original. (Engine mounting on the driver side/engine side can be manufactured).
- i. 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.
- j. 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.

12 CYLINDER BLOCKS

Only VW mass-produced blocks available through commercial outlets are allowed. No aluminium blocks may be used.

Engine blocks which may have been damaged may be re-sleeved to return them to the original specifications.

13 PISTONS AND RINGS

13.2 Class A:

Only single squish pad pistons may be used

0.5 mm maximum oversize pistons are allowed.

Minimum piston weight with rings and gudgeon pin is 370 grams

Pistons may not be modified in any way except to remove metal on the underside of the piston for balancing purposes. All pistons may be modified in this way.

Original spec Neural, Mahle pistons part number RPT83042 and Kombi pistons part number - Goldwagen: A843, Midas/Alert/general outlets: RP83045 may be used.

- 13.3 Class B:
 13.3.1 Class B 1800:
 Only single squish pad pistons may be used
 1mm maximum oversize is allowed.
 Minimum piston weight with rings and gudgeon pin is 425 grams.
 Pistons may not be modified in any way except to remove metal on the underside of the piston for balancing purposes. At least one piston must remain unmodified.
- 13.3.2 Class B 2000:
 Only single squish pad pistons may be used
 Oversize pistons are not allowed.
 Minimum piston weight with rings and gudgeon pin is 370grams.
 The pistons may be lightened by removing metal from the underside of the piston At least one piston must remain unmodified.
 Original spec Neural, Mahle pistons part number RPT83042 and Kombi pistons part number - Goldwagen: A843, Midas/Alert/general outlets: RP83045 may be used.
- 13.4 Class C:
 Only single squish pad pistons may be used.
 Oversize pistons are not allowed.
 Minimum piston weight with rings and gudgeon pin is 370 grams. The piston lightened by removing metal from the underside of the piston. At least one piston must remain unmodified.
 Only original spec or replacement part Neural, Mahle part number RPT83042 pistons may be used.
- 13.5 Class D:
 Only single squish pad pistons may be used.
 1mm maximum oversize is allowed.
 Minimum piston weight with rings and gudgeon pin is 375 grams.
 Pistons may not be modified in any way except to remove metal on the underside of the piston for balancing purposes. At least one piston must remain unmodified.

14 CONNECTING RODS

- 14.1 Only Standard OE VW Conrods are to be used.
- 14.2 Class A:
 Conrods may be lightened and balanced. Minimum weight: 580 grams includes bolts and nuts, excludes bearing shells.
- 14.3 Class B:
 14.3.1 Class B 1800
 Conrods may be lightened and balanced. Minimum weight 550 grams includes bolts and nuts, excludes bearing shells.
- 14.3.2 Class B 2000
 Conrods may be lightened and balanced. Minimum weight: 580 grams includes bolts and nuts, excludes bearing shells.
- 14.4 Class C:
 Conrods may be lightened and balanced. Minimum weight: 580 grams includes bolts and nuts, excludes bearing shells.
- 14.5 Class D:
 Conrods may be lightened and balanced. Minimum weight 550 grams includes bolts and nuts, excludes bearing shells.

15 CRANKSHAFTS

- a. Stroking is not allowed.
- b. May be balanced and reground.
- c. Lightening is allowed by drilling and grinding.
- d. Knife edging of webs is not allowed.
- e. Side edging thickness of Web must remain standard (casting marks must remain visible).

15.2 Class A:
Min weight: 13.5 kg no tolerance.
Only 2000cc crankshaft (92.8 mm stroke)

15.3 Class B:
15.3.1 Class B 1800
Min weight: 11.5 kg no tolerance.
Only 1800cc crankshaft (86.4 mm stroke)
15.3.2 Class B 2000
Min weight: 13.5 kg no tolerance.
Only 2000cc crankshaft (92.8 mm stroke)

15.4 Class C:
Min weight: 13.5 kg no tolerance.
Only 2000cc crankshaft (92.8 mm stroke)

15.5 Class D:
Min weight: 11.5 kg no tolerance.
Only 1600cc crankshaft (77.4 mm stroke)

16 FLYWHEEL AND CLUTCH

16.1 Class A, B, C & D:
Clutch plates are free of restriction.
May be lightened and balanced.
Min weight: Flywheel & pressure plate, excluding pressure plate to flywheel bolts: 7.2 Kg.

17 INDUCTION SYSTEMS

Additional air pipes may be used to supply the engine air intake with cool air.
Filters are free of restriction.
Throttle bodies may be modified to take alternate throttle position sensors.

17.1 Class A:
MP9 or 2E manifold & throttle body.
Inlet manifold may be gas flowed and cut.
Throttle body may be re-worked, but butterfly and spindle must remain standard in profile with a maximum diameter of 56mm with the exception of a hole of up to 8mm to aid idling.
Air filters and connecting pipes are free of restriction.

17.2 Class B:
Only MP9 manifold and throttle body.
Inlet manifold may not be gas flowed other than matching the ports to the cylinder head up to 80mm. (NB: the inlet manifold only, not the cylinder head).
Throttle body must remain standard with the exception of a hole of up to 8mm to aid idling and may be modified to take separate throttle position sensors.
Standard Polo or Citi Life air filter housing and connecting pipe must be used (upper and lower cones in the box may be removed).

17.3 Class C:
Only 2E (Part No 037133233K) intake manifold and throttle body allowed.
Inlet manifold may not be gas flowed other than matching the ports to the cylinder head up to 10mm. (NB: the inlet manifold only, not the cylinder head).
Throttle body must remain standard with the exception of a hole of up to 8mm to aid idling and may be modified to take separate throttle position sensors.
Standard Polo or Citi Life air filter housing must be used (upper and lower cones in the box may be removed).
The connecting pipe between the throttle body and air filter housing may be replaced with a non-standard air tight pipe with the same continuous diameter and not exceeding 350mm in length.

17.4 Class D:
Only VW 8v, MP9 intake manifold and throttle body allowed.
Inlet manifold may not be gas flowed.
Throttle body must remain standard with the exception of a hole of up to 8mm to aid idling and may be modified to take separate throttle position sensors.

Standard Polo or Citi Life air filter housing and connecting pipe must be used (upper and lower cones in the box may be removed).

18 CYLINDER HEADS

Valve stems may be shortened or lengthened.

Only standard OE or exact replacement functional hydraulic followers may be used

Minimum valve stem diameter is 7mm.

18.1 Class A:

Gemtec or 2E 8v hydraulic head – max 40 mm intake and max 34 mm exhaust valves allowed.

Zero tolerance

May be gas flowed.

Valve springs and retainers free, dual valve springs can be fitted and modifications to take double valve springs.

18.2 Class B:

Only Gemtec 8v hydraulic head – max 40 mm intake and 34 mm exhaust valves allowed. Zero tolerance.

No gas flowing allowed.

Standard valves heads single valve springs and retainers.

Three angle seats are allowed.

18.3 Class C:

Only standard 2E OE 8v hydraulic head – max 40 mm intake and 34 mm exhaust valves allowed. Zero tolerance.

Standard 2E OE valves and valve springs and retainers only.

Standard valves heads single valve springs and retainers.

No gas flowing allowed.

Standard valve seat only. Valve seat must be 45 degrees.

Minimum intake valve seat width to be no less than 2mm.

Minimum exhaust valve seat width to be no less than 2.5mm.

Minimum combustion cc is 29.0cc.

18.4 Class D:

Only Gemtec 8v hydraulic head – max 40 mm intake and 34 mm exhaust valves allowed. Zero tolerance.

No gas flowing allowed.

Standard valves, single valve springs and retainers.

Three angle seats are allowed.

19 COMPRESSION RATIO

19.1 Class A:

10.8:1 maximum, No tolerance

19.2 Class B:

19.2.1 Class B 1800

10.5:1 maximum. No tolerance

19.2.2 Class B 2000

10.8:1 maximum. No tolerance

19.3 Class C:

10.2:1 maximum. No tolerance

19.4 Class D:

10.5:1 maximum. No tolerance

20 CAMSHAFTS

The rotary position of the camshaft to the crankshaft may be changed by using an adjustable vernier pulley.

Cam hydraulic duration will be measured with a Checking height of 0.07 mm.

20.1 Class A:

Maximum 300 degree advertised duration (crank angle). No Tolerance

20.2 Class B:

- Only 288-degree advertised duration (crank angle). Tolerance ± 1.0 degree
Max 11.7mm cam lift.
Lobe Separation 108 to 110 degrees. Tolerance ± 1.0 degree
- 20.3 Class C:
Only 288-degree advertised duration (crank angle). Tolerance ± 1.0 degree
Max 11.7mm lift.
Lobe Separation 108 to 110 degrees. Tolerance ± 1.0 degree
- 20.4 Class D:
Only standard VW OE, A, B, D, H and G, original hydraulic cams are allowed.
Maximum 265 degree advertised duration (crank angle) Tolerance $+0.0 -3.0$ degrees
Max 10.2 mm cam lift.
Lobe Separation 110 degrees. Tolerance ± 1.0 degree

21 GEARBOXES AND DIFFS

- a. Only genuine VW 5-speed manual shift gearboxes may be used, as available on local models.
b. No automatic gearshift gearboxes in any form allowed.
c. No limited slip differentials.
d. Short shift gear linkage allowed.
e. Ratios may be mixed, but must be VW OE replacement parts.
f. Linkage bushings may be changed for a harder material.
g. Drive shaft lengths may be modified to prevent C.V. joint failure.
h. The inspection plate "green plate" on the side of the gearbox must be wire locked.
- 21.1 Class A & B:
3.94 or 4.25 diff ratio allowed.
- 21.2 Class C & D
Only 3.94 diff ratio allowed.
For new competitor's information: The most commonly used gears used are: 3.455 for 1st gear.
1.944 for 2nd gear, 1.444 for 3rd gear, 1.129 for 4th gear, 0.894 or 0.913 for 5th gear

22 MANAGEMENT SYSTEMS

Only original MP9, or SA manufactured systems that are freely commercially available and that cost less than R5500 are allowed. (Dastek Unichip, Dicktator, Perfect Power, Mr. Turbo, Gotech)

23 IGNITION SYSTEMS

- Individual coils per cylinder are not allowed.
- 23.1 Class A & B:
May run Wasted Spark Coil Pack
- 23.2 Class C & D:
Wasted Spark Coil Pack is not allowed
Standard OE operational distributor must be actively used

24 FUEL INJECTION

- a. Plastic injector rails may be used.
b. Fuel pressure regulators are free of restriction.
c. More than one fuel pump is allowed.
d. Fuel pumps are free of restriction.
e. Exterior additional fuel surge tanks are allowed but must be comply with the fuel regulations in the GCR's. The competitor must take full responsibility of the installation.
f. Fuel radiators/coolers or cooling of fuel in any way is not allowed.
- 24.1 Class A:
The original spec, part no: 037906031AA, or digifant injector rails, part no: 037133313J may be used and the injectors may be flowed.
The Golf 4 Turbo type Injectors, part no: 06A906031 or 06A906031BA may be used, but must remain standard.
- 24.2 Class B:
Only original spec injectors may be used, part no: 037906031AA.

- 24.3 Class C:
Original spec injectors, part no: 037906031AA or Digifant injector rails, part no: 037133313J may be used.
- 24.4 Class D:
Only original spec injectors may be used, part no: 037906031AA.

25 EXHAUST SYSTEMS

- a. Exhaust systems are free of restriction, except as provided for in class C below
- b. Must comply with GCR 245 and must exit at the rear of the car in the original position and direction.
- c. 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.
- d. The exhaust must also not protrude beyond the perimeter of the vehicle.
- e. The exhaust must follow the original route of the standard OE exhaust system

25.1 Class C

Only the standard 2E OE exhaust manifold, part No 027253033BC or 037253033E

Other than machining and matching the exhaust manifold to the cylinder head up to 10mm into the exhaust manifold (NB: the exhaust manifold only, not the cylinder head) the exhaust manifold may not be flowed.

The downpipe from the exhaust manifold to the knuckle must have an OD of 45mm at all points, and may not be longer than 1000 mm in length and may have no additional internal fitted parts. The rest of the exhaust may only be a single pipe that must follow the original route of the standard exhaust system and 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.

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.

26 BODYWORK AND GENERAL

- a. No built out panels are allowed, but fender lips may be rolled or fenders flared to accommodate larger tyres specified.
- b. Front valance may be cut to achieve better airflow to radiators only.
- c. Outside shell appearance for all cars must appear original as per Volkswagen SA.
- d. Paint colours may be changed and sticker patterns applied.
- e. Body parts e.g. doors, boot, bonnets, bumpers must remain visually original externally but may have the insides lightened.
- f. 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 spec spoiler for that specific vehicle.
- g. Splitters, aerofoils or aerodynamic devices designed to improve down force are not allowed.
- h. Taping up or filling gaps in bonnets, doors etc. to aid aerodynamics are not allowed.
- i. Headlights must remain and be operable. The inner lights may be removed, but must be covered (with solid covers or wire mesh) as approved by the Technical Committee.
- j. Racing seat and steering wheel are free of restriction but must be securely fitted and technically approved.
- k. Steering column may be lowered and extended but must be technically approved
- l. 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.
- m. 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 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.
- n. The roll cage must include a safe method behind the driver's seat to stop the driver's seat from moving backwards in the case of an accident.
- o. 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.
- p. Any form of instrument cluster may be used. Additional instruments may be fitted to measure engine performance.
- q. Cut-off switches must be fully operational from inside and outside the car and shall be clearly marked.
- r. All cars will have stickers on the roll cage at the driver's A pillar to show the car including driver total weight as specified per class.
- s. Bonnet clips and safety nets must be fitted (as per MSA Handbook).
- t. With the exception of windscreens all other glass may be substituted with Lexan with minimum thickness of 3 mm. They must be fitted in to the body with standard rubbers or pop rivets which may not be visible.
- u. The battery must be positioned in the original position.
- v. 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.
- w. Any form of electronic driver aid excluding data logging is strictly forbidden.
- x. Soft towing straps must be fitted to the front and rear of all cars if the standard tow hooks protrudes beyond the bumper.

27 SUSPENSION

- a. Top shock turrets must remain in standard position.
 - b. Standard VW OE steering rack and standard mounting positions only, power steering may be disconnected.
 - c. Bush material is free however must be dimensionally identical to standard items.
 - d. Pick-up points on body / chassis may not be changed or moved.
 - e. Steering knuckles must be a standard VW OE part and match the specific model of that vehicle.
 - f. Golf II, III, IV, P1 and P3 may use a rose joint in replacement of the rear control arm bush, but must be in the standard position.
 - g. Shocks / uprights may be slotted to achieve camber settings only.
 - h. Ball joints and their mountings may not be slotted. For camber purposes P2, P3, Golf 4, Golf 5 and Golf 6 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. The maximum track width must still be adhered to.
 - i. Top and bottom stress bars are allowed.
 - j. Steering rack mounting on MK1 Golf/Jetta/Fox must be reinforced.
 - k. Mk1 Golf/Jetta/Fox knuckle maybe machined to accommodate 39 and 40 mm hubs and bearings for safety reason only.
 - l. Mk1/2/3 Golf/Jetta/Fox may use new Polo/Golf 4 type rear stub axle with pressed wheel-bearing, for safety reasons, with modifications to allow the fitment of the currently used brake calipers.
 - m. Rear droop may be mechanically limited.
 - n. Hubs of 4 of 5 stud type specification are allowed in all classes.
- 27.1 Class A:
- Camber/Caster plates with a maximum caster offset of 40 mm are allowed and may be fitted on top or below the turret.
 - Ackerman angle may be altered.
 - Anti-roll bars and material are free. The roll bar may be fitted remotely in its working principle.
 - Rear axle may be stiffened by fitting fixed stiffeners.
- 27.1.1 Shock makes for class A:
- Bilstein, Koni, Gabriel, Monroe, Sachs, Wietec, Armstrong, Spax, Leda, Sax, KW or Traxion coil over type shocks are allowed.
- External gas canisters are allowed.
- 27.2 Class B:
- Adjustable camber only plates allowed and may be fitted on top or below the turret.
 - Ackerman angle may be altered.
 - Anti-roll bar material and thickness may be changed. Rear anti-roll bar must fit directly onto rear axle and must follow the contour of the rear axle. The roll bar may not be fitted remotely in its working principle.

Rear axle may be stiffened by fitting fixed stiffeners along the straight edge of the axle only. Rear axle control arms may be strengthened by welding in a gusset plate of maximum 5mm thickness.

27.2.1 Shock makes class B:

Bilstein, Koni, Gabriel, Monroe, Sachs, Wietec, Armstrong, Spax, Leda, Sax, KW, Traxion or Ian Glass coil over type shocks are allowed.

External gas canisters not allowed.

27.3 Class C:

Camber/Caster plates with a maximum caster offset of 40 mm are allowed and may be fitted on top or below the turret.

Ackerman angle may not be altered.

Anti-roll bar material and thickness may be changed. Rear anti-roll bar must fit directly onto rear axle and must follow the contour of the rear axle. The roll bar may not be fitted remotely in its working principle.

Rear axle may be stiffened by fitting fixed stiffeners along the straight edge of the axle only. Rear axle control arms may be strengthened by welding in a gusset plate of maximum 5mm thickness. Only one spring per shock allowed no helper springs.

27.3.1 Shock makes for Class C:

Ian Glass supplied, non-adjustable, locally manufactured, non-gas assisted, large OE coil type, sealed, GT shocks utilizing springs that fit into the original OE seating points or coil-over springs where the ride height is adjustable by using spacers and or threaded outer casing.

Non gas assisted Koni coil-over type shocks. Part No Front: 8610-1436-RACE, Part No Rear: 8041-1101-SPORT,

Locally assembled, gas assisted Bilstein coil-over type shocks.

Any Class C competitor's Shock absorber information / specifications will be available to all Class C competitors.

27.4 Class D:

Adjustable camber only plates that are bolted into the original mounting position are allowed. Plates must be fitted below the turret without spacers.

Original spec top mounting in the original mounting position may also be used. This mounting may be stiffened.

Ackerman angle may not be altered.

Only original VW OE anti-roll bars may be used and must fit into standard mounting positions.

Rear axle may be stiffened by fitting fixed stiffeners along the straight edge of the axle only. Rear axle control arms may be strengthened by welding in a gusset plate.

Only one spring per shock allowed no helper springs.

27.4.1 Shock makes allowed for Class D:

Ian Glass supplied, locally manufactured, non-gas assisted, large OE coil type, sealed, GT shocks utilizing springs that fit into the original OE seating points.

Steve Hurley supplied, locally manufactured, non-gas assisted, large OE coil type, sealed, Traxion shocks utilizing springs that fit into the original OE seating points.

Non gas assisted Koni coil-over type shocks. Part No Front: 8610-1436-RACE, Part No Rear: 8041-1101-SPORT, utilizing specified springs TBA.

28 BRAKES

- a. Boosters may be removed, but standard VW master cylinder must be retained.
- b. Discs may be slotted and/or cross-drilled.
- c. Rear brakes can be drums or discs.
- d. Friction material is free.
- e. Adjustable brake balances are allowed in car within reach of driver.

28.1 Class A:

Any standard VW single piston floating caliper, aftermarket brake pads and discs up to a maximum of 288mm diameter allowed.

Adjustable brake compensating load valve is allowed.

28.2 Class B

28.2.1 Class B 1800:

Standard VW OE calipers with aftermarket brake pads and discs up to a maximum of 256mm diameter.

Standard OE adjustable brake compensating load valve is allowed.

28.2.2 Class B 2000:

Standard VW OE calipers with aftermarket brake pads and discs up to a maximum of 288mm diameter.

Standard OE adjustable brake compensating load valve is allowed.

28.3 Class C:

Standard VW OE calipers with aftermarket brake pads and discs up to a maximum of 288mm diameter.

Standard OE adjustable brake compensating load valve is allowed.

28.4 Class D

Standard VW OE calipers with aftermarket brake pads and discs up to a maximum of 256mm diameter.

Standard OE adjustable brake compensating load valve is allowed.

29 WHEELS AND TYRES

a. No chrome plated or split rims are allowed. Rim size 15 inch, 7J max.

b. Tyres for all classes are DUNLOP DZ03G H1 compound 195/55-R15, or as approved by the Technical Committee.

c. The VW Challenge Committee has the authority to appoint an official tyre marker at a race meeting.

d. At any given race meeting, four tyres will be positively identified by the technical committee or scrutineer prior to the start of qualifying and these tyres must be used for the remainder of the race meeting.

e. It is the responsibility of the competitor to ensure their tyres are marked by the official tyre marker before official timed practice.

f. 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.

g. The only time four new i.e. unmarked tyres may be used is at a competitor's first race of a new race season.

h. At the discretion of the technical consultant/scrutineer a damaged or defective tyre may be replaced during a race meeting with a tyre of similar wear.

i. In the event of a competitor replacing/building a new car they must transfer their current tyres to their new car.

j. Pressure controlling "pop-off" valves may not be used.

29.1 Classes A, B, and C

Two new tyres will be allowed every race meeting

29.2 Class D

One tyre will be credited per race meeting and can be used at the discretion of the competitor.

The technical committee will also exercise the option that 2 tyres can be credited, if the previous or following race is at an abrasive track.

30 SPECIFICATION SHEET

Chassis specifications and general measurements are available from the Technical Committee. All specifications are subject to 0.5 % tolerance except where no tolerance is allowed.

(P1 refers to old 6K old Polo Classic and Playa, P2 refers to 9N Polo and Vivo, P3 refers to new 6R Polo)

30.1 Ground Clearance:

30.1.1 Classes A & B:

110 mm minimum for Golf4 & Beetle

120 mm for P2 & P3 Polo

130 mm minimum for all other model cars

30.1.2 Class C & D:

135 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.

30.2 Front Track Width:

This measurement will be taken at the bottom of the wheel (closest to the ground) from the outer edge of the wheel (rim) bead face.

30.2.1 Classes B, C & D:

The widest part of the two opposing wheel rims, no tolerance:

Mk1: 1670mm

Mk2 & P1: 1710mm

Mk3, & P2: 1730mm

Mk4, Mk5, Mk6, Beetle, P3: 1740

30.2.2 Class A:

Track width: as above and may also be widened by a further 10mm.

30.3 Wheel Base

The wheel base of a car may not be increased from the standard wheel base. The wheel base on the various models shall not exceed:

- a. Golf Mk1 wheel base 2410mm (plus 5mm) maximum
- b. Golf Mk2 wheel base 2471mm (plus 5mm) maximum
- c. Golf Mk3 wheel base 2475mm (plus 5mm) maximum
- d. Golf Mk4 wheel base 2511mm (plus 5mm) maximum
- e. Polo P1 (6K) wheel base 2440mm (plus 5mm) maximum
- f. Polo P2 (9N) wheel base 2460mm (plus 5mm) maximum
- g. Polo P3 (6R) wheel base 2470mm (plus 5mm) maximum
- h. Beetle wheel base 2508mm (plus 5mm) maximum

Rear axle mounting points may not be slotted or modified to allow wheel base to be lengthened or shortened.

31 FUEL

- a. All classes must use standard 95 Octane petrol, freely available to the South African public, from dispensing pumps at commercial filling stations within the proximity of the race meeting.
- b. All classes may use 98 octane unleaded racing fuel, complying with MSA specifications, at the coastal races. Refer to GCR 240.
- c. The VW Challenge Committee and/or Technical Committee and/or VW Challenge Technical Consultant 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.

32 CAR MASS (Including driver)

- a. The vehicle mass is as car is raced. At no time of the event may a car weigh less than stipulated. No tolerance.
- b. The technical committee can at any time during the 2012 season adjust the weights to keep competition fair.
- c. 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 Technical Committee (or its nominated representative/s).
- d. Location of ballast is free of restriction within the cabin area or boot of the vehicle.
- e. Vehicles may not be lightened by the removal of exterior bodywork.
- f. The ballast weights will be bolted in to strengthening bars or plates that run across the floor that are welded or affixed to the roll cage or car's integral structure.
- g. The weights in the wheel well can be secured as mentioned above or using a bar that is affixed to the roll cage bar running above the wheel well.
- h. The bolts used to secure the weights must be minimum 20mm diameter using at least 5mm thick washers that are at least 100mm in diameter.
- i. Attachments must be approved by the VW Challenge Technical Committee or MSA scrutineers.

32.1 Class A:

Minimum weight: 1075kg.

- 32.2 Class B:
 - 32.2.1 Class B 1800
 - Minimum weight: 1040 kg.
 - The minimum weight will be adjusted by the Technical Committee once information on the power characteristics of the Class B 2000 engine becomes available.
 - 32.2.2 Class B 2000
 - Minimum weight: 1050 kg.
- 32.3 Class C:
 - 32.3.1 Class C with Ian Glass Shocks:
 - Minimum weight: 1025kg.
 - The minimum weight may be adjusted by the Technical Committee at any time during the year
 - 32.3.2 Class C with Bilstein or Koni Shocks:
 - Minimum weight: 1050kg.
- 32.4 Class D:
 - Minimum weight: 960kg.