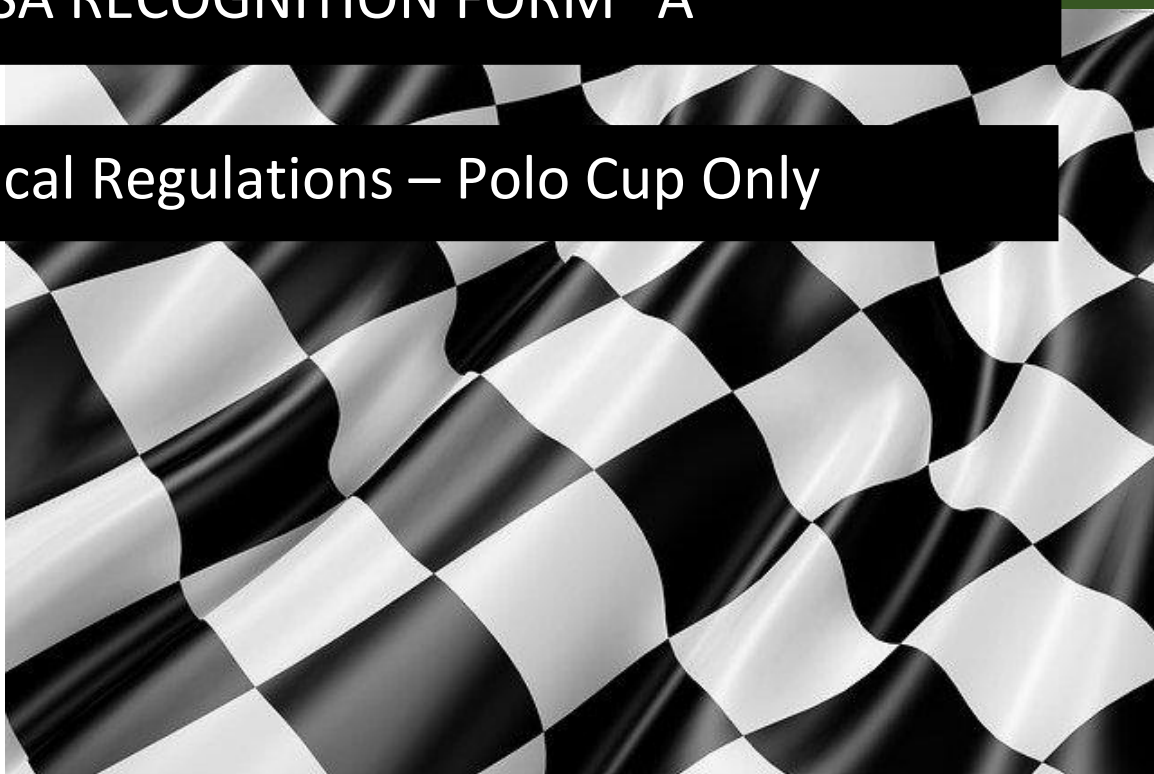




# 2021

## MSA RECOGNITION FORM "A"

### Technical Regulations – Polo Cup Only



Version 2

12 May 2021

162498/144

## REVIEW AND AMENDMENTS

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>
4.4, 4.5, 4.6, 4.6.1, 4.6.2, 4.6.3	IMMEDIATE	12 MAY 2021	ADD ROLLAGE MATERIAL AND DESIGN
32.3	IMMEDIATE	12 MAY 2021	ADD – BATTERY BOX

## **RECOGNITION FORM “A” (Technical Regulations) 2021**

### **FOR POLO CUP ONLY**

This document specifies items, which affect the eligibility of a vehicle for entry in the above categories of Motor Sport competition, and non-conformity therewith in any single respect will render the vehicle ineligible to compete. It is the responsibility of the competitor or entrant to insure compliance of the Recognition Form A. Competitors purchasing “used” cars must check that the cars comply with all rules.

No options are allowed except where stated herein or which are authorized by the specific regulations issued by MSA for the above categories, and any changes in the information contained herein for whatever reason, must be advised to MSA immediately they occur.

MSA reserves the right to accept or reject such amendments as being permissible changes to this document, or to request that they be incorporated in separate, revised Recognition form for the vehicle.

The original signed and stamped version of this document is retained by MSA as proof of acceptance and homologation of the vehicle. Photostat copies of the original are available on request at the price stated in MSA Handbook, Appendix “R”.

The appropriate registration fee must accompany this document when applying to MSA for acceptance, and failure in this regard will result in delay in registration.

It should also be noted that where modifications are allowed in terms of the Regulations, such modifications may not be carried out if they affect any other specification or component which it is not permitted to modify.

Unless specifically permitted in the Regulations, any alteration, change or modification to a vehicle competing in any of the stated categories is not allowed.

Where alternatives are referred to in the items listed in this document, it is sufficient to delete the one(s) not applicable, i.e. YES/NO, AS CAST/FETTERED/MACHINED/AS FABRICATED.

**MANUFACTURER: VOLKSWAGEN GROUP SOUTH AFRICA (PTY) LTD** (Trading as Motorsport Department)

**MODEL: VOLKSWAGEN POLO**

**ENGINE: Engine capacity 1984 cm<sup>3</sup>**

**MANUFACTURING COMMENCED: 2018**

**MANUFACTURING CEASED: ONGOING**

## **CHASSIS AND COACH WORK**

### **1. MATERIAL AND CONSTRUCTION**

- 1.1. Detail and panels not of steel:
- 1.2. Excise Mass: 1200kg (including driver)

### **2. VEHICLE DIMENSIONS**

- 2.1. Wheelbase (nominal): 2550mm  $\pm$  5mm
- 2.2. Overall length (nominal): 4060mm ( Bumper to Bumper)
- 2.3. Front track (nominal): 1555mm  $\pm$  3mm (measured between tyre centres on
- 2.4. Rear track (nominal): 1492mm  $\pm$  3mm the ground car unladen)

### **3. INTERIOR HEATER**

- 3.1. Fitted: No

### **4. SAFETY CAGE and BODY**

- 4.1. Seat belts and Seats to be mounted in accordance with FIA 2006 regulations.
- 4.2. Only bodies prepared with a safety cage by Volkswagen Motorsport or an approved body builder are permitted.
- 4.3. Only the rear spoiler supplied by VWM is permitted.

4.4. Rollcage material for Chassis 1-37 is SupaForm (material no more available)

4.5. Chassis 38 and onwards will be Chrome moly tubing.

4.6. The rollcage design is different:

4.6.1 Supaform: Rear structure (Diagonal) and roof bar is one (1) tube across, for each.

4.6.2 Chrome Moly: V-Design. Two (2) tubes each. (Roof and rear)

4.6.3 Chrome Moly: Support tube down from window/roof corner to front leg on floor. (Driver side)



**Supaform**



**Chrome Moly**

## **5. WHEELS**

- 5.1. Material of wheel rim: Aluminium Alloy
- 5.2. Material of wheel centre: Aluminium Alloy
- 5.3. Rim code: VW199 (6RR 601 025 A)
- 5.4. Rim width: 7J
- 5.5. Rim diameter: 17"
- 5.6. Offset from mounting face to inner extremity of rim: ET46mm
- 5.7. Mass without tyres: 10.1kg
- 5.8. Number of BOLTS: 5 (FIVE) x 100 PCD
- 5.9. 20mm Spacers as supplied by VW Motorsport must be fitted to the front wheels.
- 5.10. 5mm Spacers as supplied by VW Motorsport must be fitted to the rear wheels
- 5.11. Wheel studs are compulsory: Front length = 85mm    Rear length = 75mm

## **6. TYRES**

- 6.1. Refer to Items 28 & 29 of the Polo Cup Sporting Regulations.

## **7. FRONT and REAR WHEEL ALIGNMENT**

- 7.1. Front Camber angle: 4.50 degrees, maximum
- 7.2. Measure with driver seated in the car within an area designated by VW Motorsport Technical Consultants and published on the official notice board of the race meeting.
- 7.3. Method of adjustment: Slider with 4 x M6 Bolts
- 7.4. Castor angle: N / A degrees Fixed
- 7.5. Method of adjustment: N / A
- 7.6. Reference: GCR 226
- 7.7. Rear Wheel Alignment adjustment can be achieved by shimming of the stub axle.

## **8. STEERING GEAR**

- 8.1. Type: Rack and Pinion
- 8.2. Power assisted: Yes
- 8.3. Type: Electrical Column

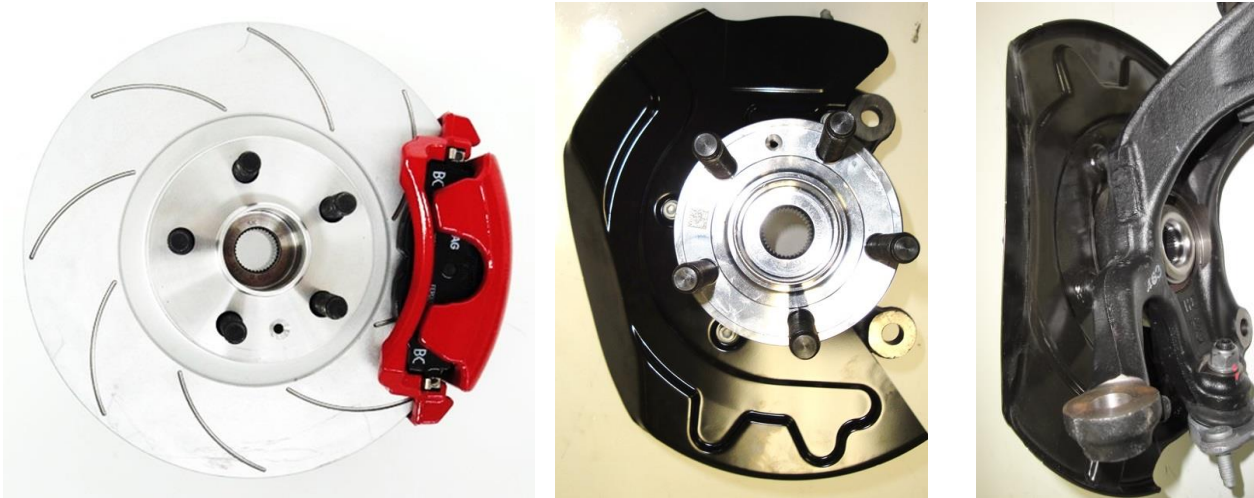
## 9. BRAKE SYSTEM

- 9.1. Dual line
- 9.2. Separate circuits front and rear: Yes
- 9.3. Number of master cylinders: 2(two) Tilton 76-Series  
Front Piston Diameter:  $\frac{3}{4}$  (19.10mm)  
Rear Piston Diameter:  $\frac{7}{8}$  (22.20mm)
- 9.4. Servo assisted: No
- 9.5. Number of servo units: NA
- 9.6. Number of circuits on which servo assistance operates: NA
- 9.7. Type of servo unit(s) – specify manufacture's model number of other reference: NA
- 9.8. Brake pressure regulator fitted: Yes (Tilton – Cable type)
- 9.9. Location, if fitted: Inside Vehicle
- 9.10. Only brake lines supplied by Volkswagen Motorsport will be permitted.

10. The brake lines must be connected so that the front and rear operate on separate lines.

## 11. BRAKE ASSEMBLIES – DISC AND CALLIPER TYPE

- 11.1. Disc material - Front: Steel Rear: Steel
- 11.2. Caliper material - Front: Steel Rear: Steel
- 11.3. Ventilated disc - Front: Yes Rear: No
- 11.4. O/D of disc - Front: 312 x 25 Rear: 272 x 10
- 11.5. Disc part # - Front: PC7 615 301 Rear - 2Q0 615 601 G
- 11.6. No. of wheel cylinders per wheel - Front: 1(one) Rear: 1 (one)
- 11.7. No. of pads per wheel - Front: 2 (two) Rear: 2 (two)
- 11.8. Size of piston, Front -  $\varnothing$  57.14mm
- 11.9. Front Caliper  
VW Part #: 2Q0 615 105 D & 106 D
- 11.10. Size of piston, Rear -  $\varnothing$  36.95mm  
VW Part #: 2Q0 615 405 Q & 406 Q
- 11.11. Brake pads part # - Front: FCP 4433 Z (Ferodo) Racing pad  
- Rear: 2Q0 415 E (Ferodo) OE pad



**Note:** Heat shields as supplied by VW Motorsport to protect the wheel speed sensor and lower balljoints must be fitted at all times, on the front assemblies.

## 12. SUSPENSION

### 12.1. Front Suspension

12.1.1. Type: MacPherson strut

12.1.2. Description of control arms and locating members:

LF – Part # PC7 407 151 ASS

RF - Part # PC7 407 152 ASS

12.1.3. Dimensions of springing medium: 200(spring) + 5(spring spacer) + 80(helper) = 285mm

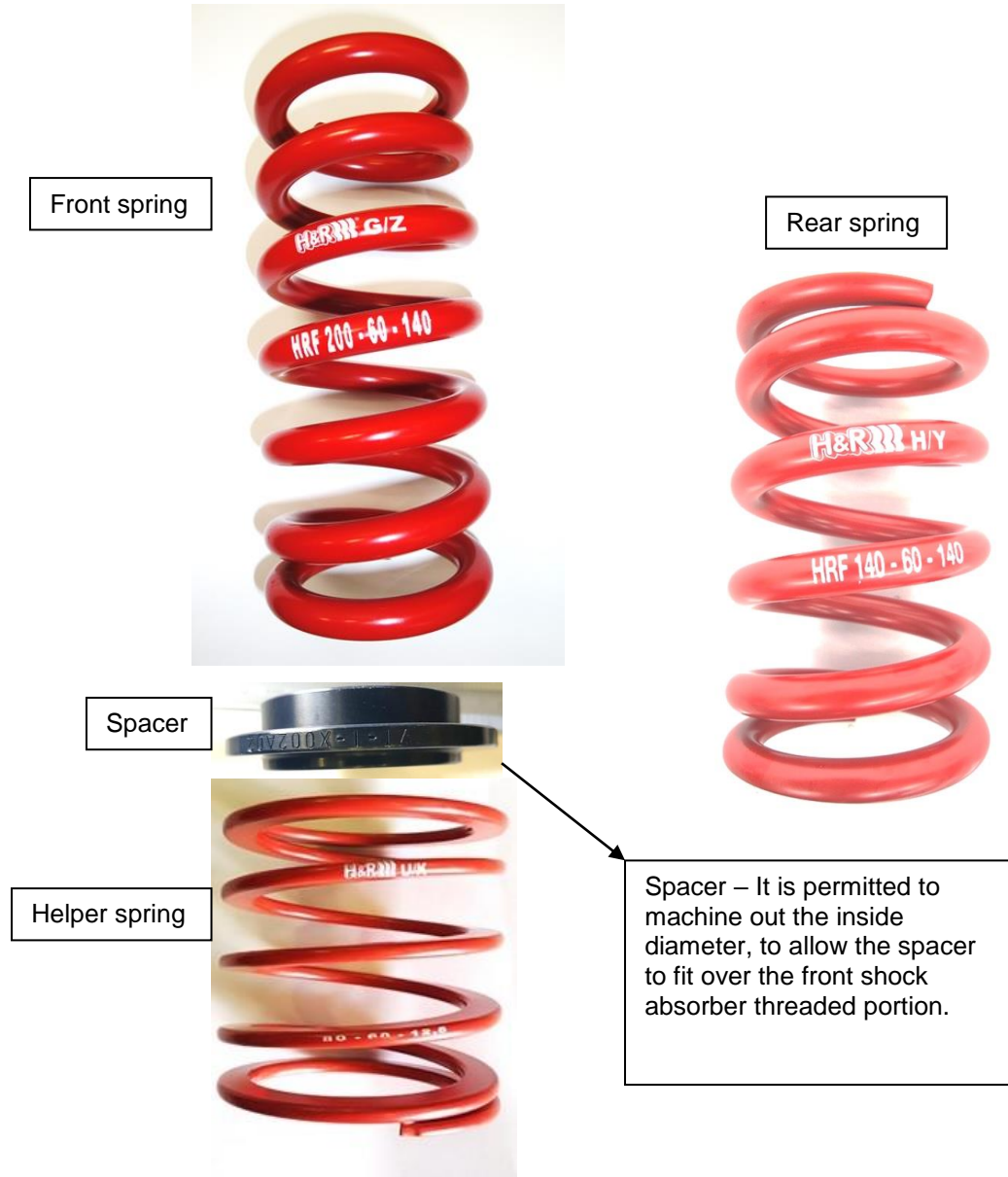
12.1.4. Helper spring: Must be fitted at the bottom and main spring on top.

12.1.5. Spring stiffness: 140 N/mm

12.1.6. Coils: Number: Spring 7, Helper 6

12.1.7. Diameter of wire: Spring  $\varnothing$ 13.6, Helper 4.2x10mm (Rectangle)

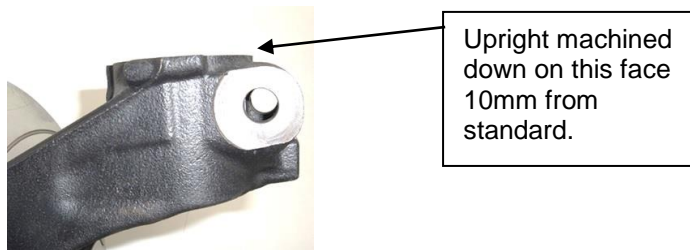
12.1.8. Make: H&R



12.1.9. Torsion bars: Not fitted

12.1.10. Front stabilizer rod diameter: Not fitted

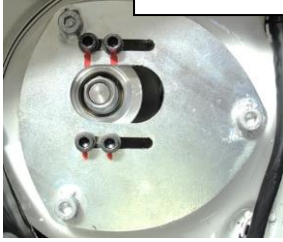
12.1.11. Upright: VW Part number: PC7 407 255/256 L (Modified)





12.1.12. Camber adjustment by means of a slider system (4.5deg max)

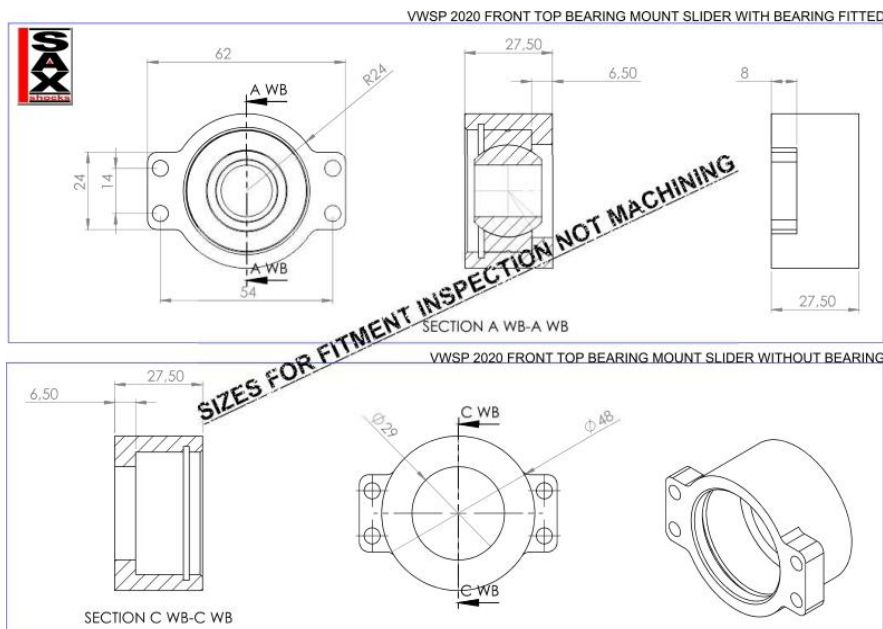
TOP VIEW (Mounted)



Camber plate mounted on top of body strut mount.

Caster is built into plate and the offset is towards the rear/inside of the vehicle.

BOTTOM VIEW (Mounted)



12.2. Rear Suspension

- 12.2.1. Type: Beam axle
- 12.2.2. Description of control and locating members: N / A
- 12.2.3. Dimensions of springing medium: L=140mm, NO HELPER SPRING AT REAR
- 12.2.4. Spring stiffness: 140 N/mm
- 12.2.5. Spring holder/adjuster dimension: Length 80mm, Thread 53.0mm
- 12.2.6. Coils – Number: 5
- 12.2.7. Diameter of wire:  $\varnothing 12.5\text{mm}$

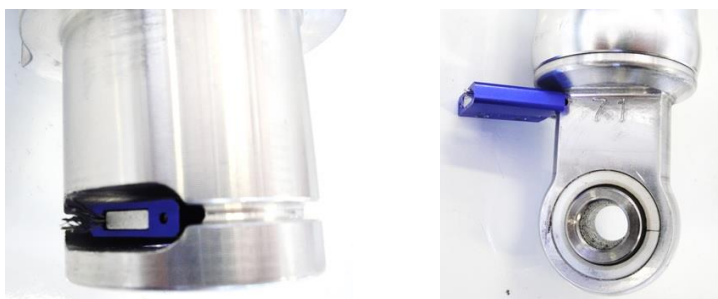
- 12.2.8. Make: H&R
- 12.2.9. Torsion bars: Not fitted
- 12.2.10. Rear stabilizer rod diameter: Not fitted
- 12.2.11. Rear spring rubber (2Q0 512 149 )

### 12.3. **SPRINGS**

The front springs may only be used at the front and the rear springs only be used at the rear.

### 12.4. **Shock Absorbers**

- 12.4.1. Only the SAX suspension units as supplied by VW Motorsport may be used.
- 12.4.2. Compressed and extended dimensions of the shocks are as shown below,  
Front Shock : Full In – 367mm & Full Out – 502mm  
Rear Shock : Full In – 375mm & Full Out – 580mm
- 12.4.3. At the discretion of the Technical Consultant competitors may be required to surrender their shock absorbers. They will then be issued with replacement units.
- 11.4.4. Please note that only the supplier (Pole Position) and Volkswagen Motorsport may service these shock absorbers.
- 11.4.5. Shock absorber procedure in-case servicing is required on a shock absorber or a shock absorber that needs to be replaced on a racing weekend:
  - 1) Shock absorber supplied to VW Motorsport
  - 2) VW Motorsport will supply a replacement unit
  - 3) Shock absorber will be serviced and run on the shock dyno
  - 4) If shock absorber is in-spec, a locking seal will be installed and the shock absorber will go back into spares package.
- 11.4.6. Dampers are sealed and may not be reworked.



#### **WARNING:**

Shock absorbers are under pressure and must not be opened unless the seal is removed and the pressure released.

- 11.4.7. Any shock absorber found without a seal during a technical inspection will result in exclusion.

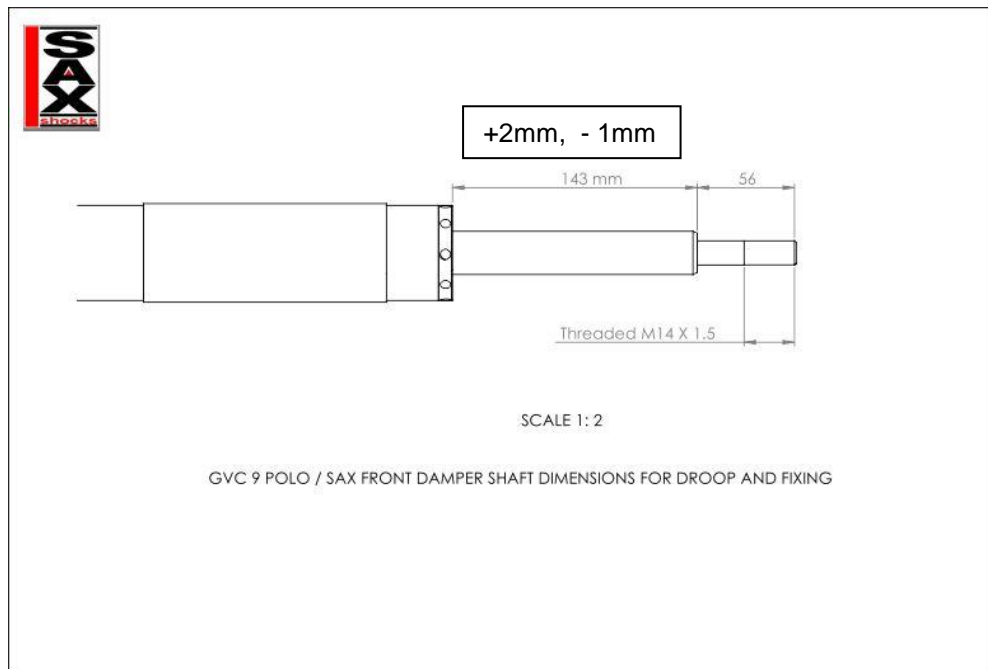
- 11.4.8. A ride height spacer must be fitted, at all times, on both front shock absorbers.  
The spacers must be as supplied.



L = 50 mm  
Inside Diameter = 57.8 mm  
Outside diameter = 63 mm



- 11.4.9. Drawing of shock absorber shaft



### 13. ENGINE – 4 STROKE PISTON TYPE

Only sealed engines supplied by VW Motorsport may be used.  
Refer also Sporting Regulations Item 24.

- 13.1. Minimum mass of crankshaft flywheel complete with ring gear: 7.20 kg  $\pm 0.05$   
13.2. Part number: PC7 105 269



Note: Weight was done without bolts

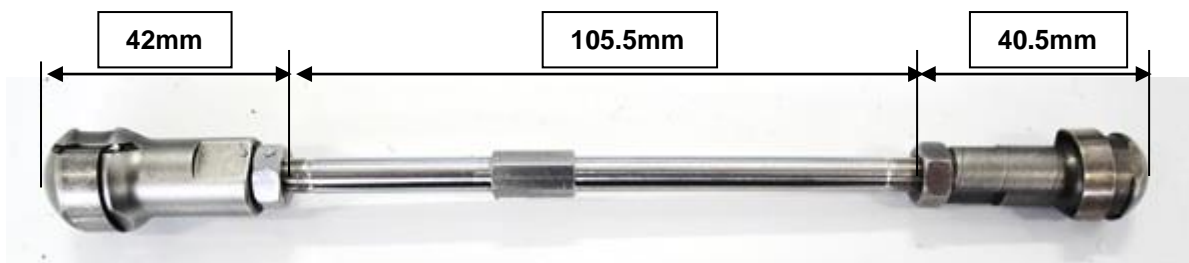
#### 14. INLET MANIFOLD

- 14.1. Material: Plastic
- 14.2. Only inlet manifolds supplied by Volkswagen Motorsport parts department may be used.
- 14.3. Finish: As supplied – Standard part
- 14.4. Throttle Body: Standard part as supplied with the engine 06K133062AK / M

#### 15. TURBO

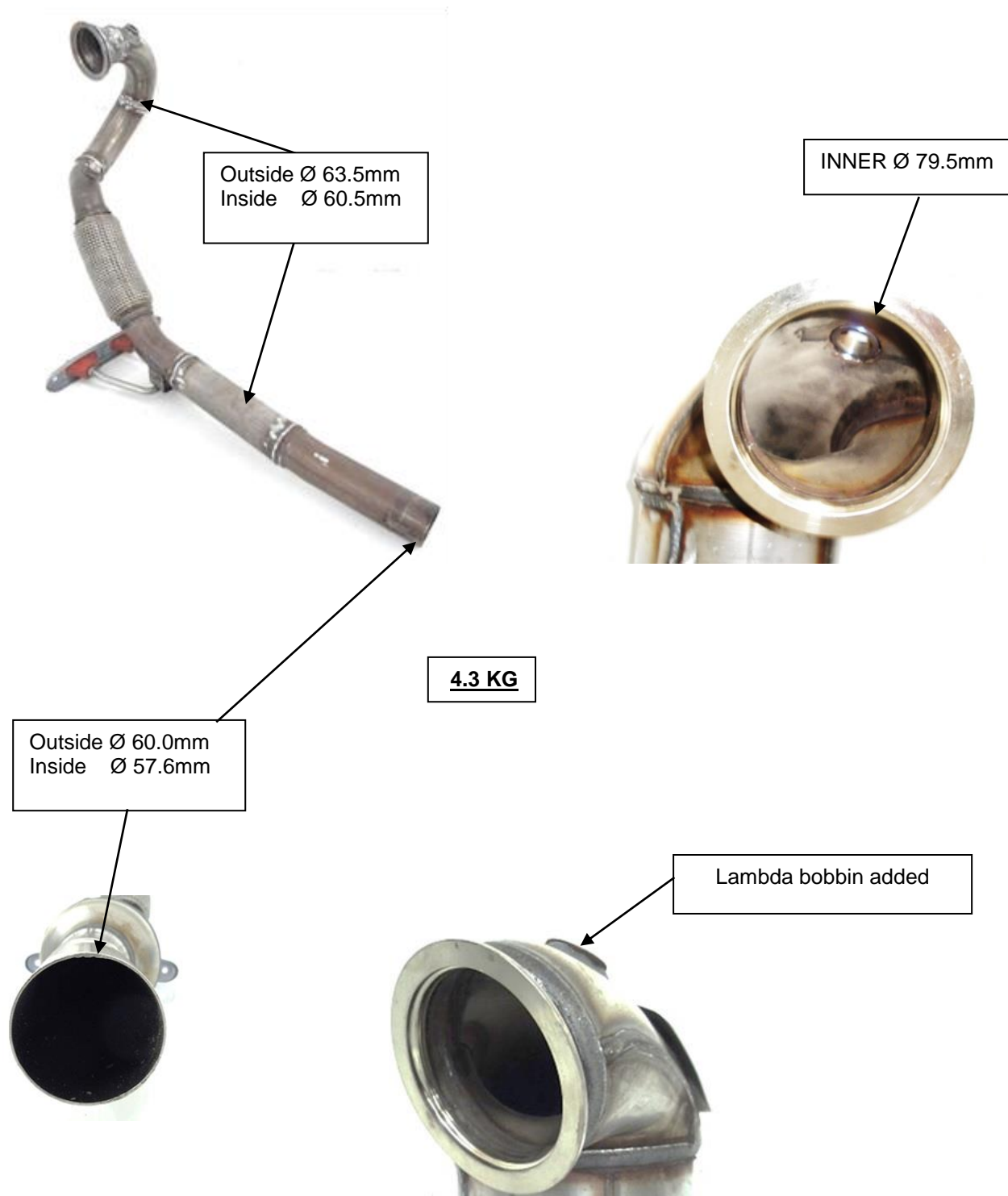
- 15.1. Turbo part number: 06K 145 654 J
- 15.2. Wastegate throttle valve control element: 06K 145 655 B
- 15.3. Dumpvalve link arm length must be 188mm  $\pm$ 2mm (overall) see dimensions below.

Measured hot or cold



#### 16. BRANCH MANIFOLD

- 16.1. Material: Mild steel  
Flange: Mild steel
- 16.2. Fastening method: Clamp as supplied by VW Motorsport
- 16.3. Dimension and weight: 4.3 KG



## 17. EXHAUST SYSTEM AND TAILPIECE

- 17.1. Number of silencers / resonators: 1 (one) – as supplied by VW Motorsport
- 17.2. Length of silencer box: 290 mm
- 17.3. Exhaust centre pipe, weight – 4.3 KG
- 17.4. Exhaust tailpiece weight – 2.6 KG
- 17.5. Number of hangers – 2 (two)



Exhaust hanger



Exhaust hanger reinforcement  
allowed





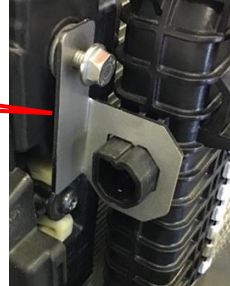
## 18. COOLING SYSTEM

### 18.1.1. Radiator (Part No. 2Q0 121 253 N)

Location: In front of car, in its standard position

### 18.1.2. Intercooler (Part No. 5Q0 145 803 T)

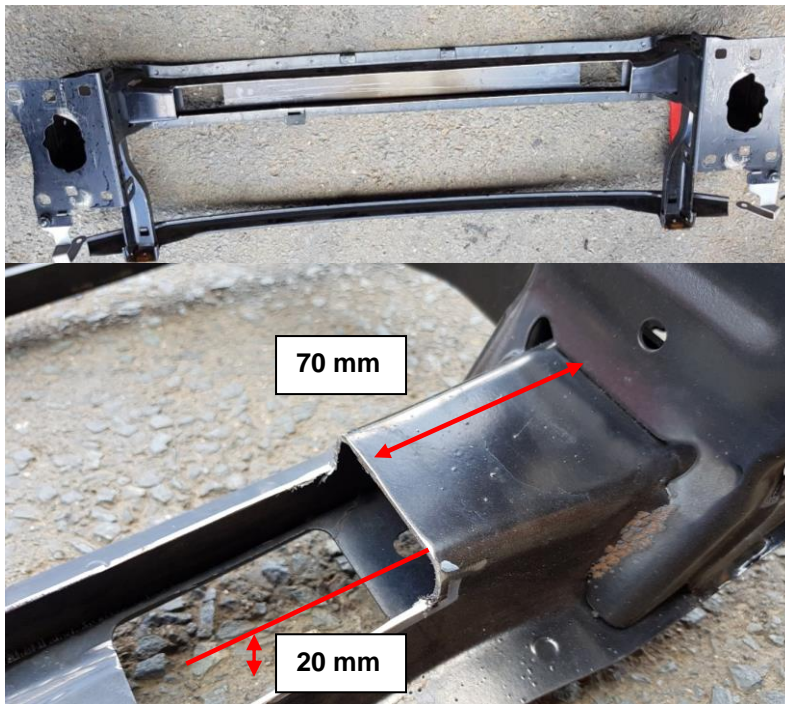
Location: In front of radiator, in its standard position.



Mounting bracket (x2/car)

### 18.1.3. Front end stiffener

Stiffener cut-out for intercooler to fit.



### 17.1.4 Front end cradle

Front end cradle cut-out for intercooler to fit.



## 18.2. Cooling Fan

- 18.2.1. Fan – Part No. 2Q0 959 455 L      No. of blades: 9      Diameter: 430mm
- 18.2.2. Coupling: Electric
- 18.2.3. Thermostatically controlled: Yes
- 18.2.4. Thermostat: Original 06L 121 111 H
- 18.2.5. Fixing Method – Original mounting brackets



## 19. FUEL SYSTEM

### 19.1. Fuel Tank (Part No. 2Q0 201 021 ET – complete with fuel pump)

- 19.1.1. Capacity: 45 litres (with another  $\pm 7$  litres available if expansion volume is filled)
- 19.1.2. Location: Under boot floor

### 19.2. Fuel Pump (Part no. 2Q0 919 051 B)

- 19.2.1. Type: Rolling element
- 19.2.2. Location: In tank

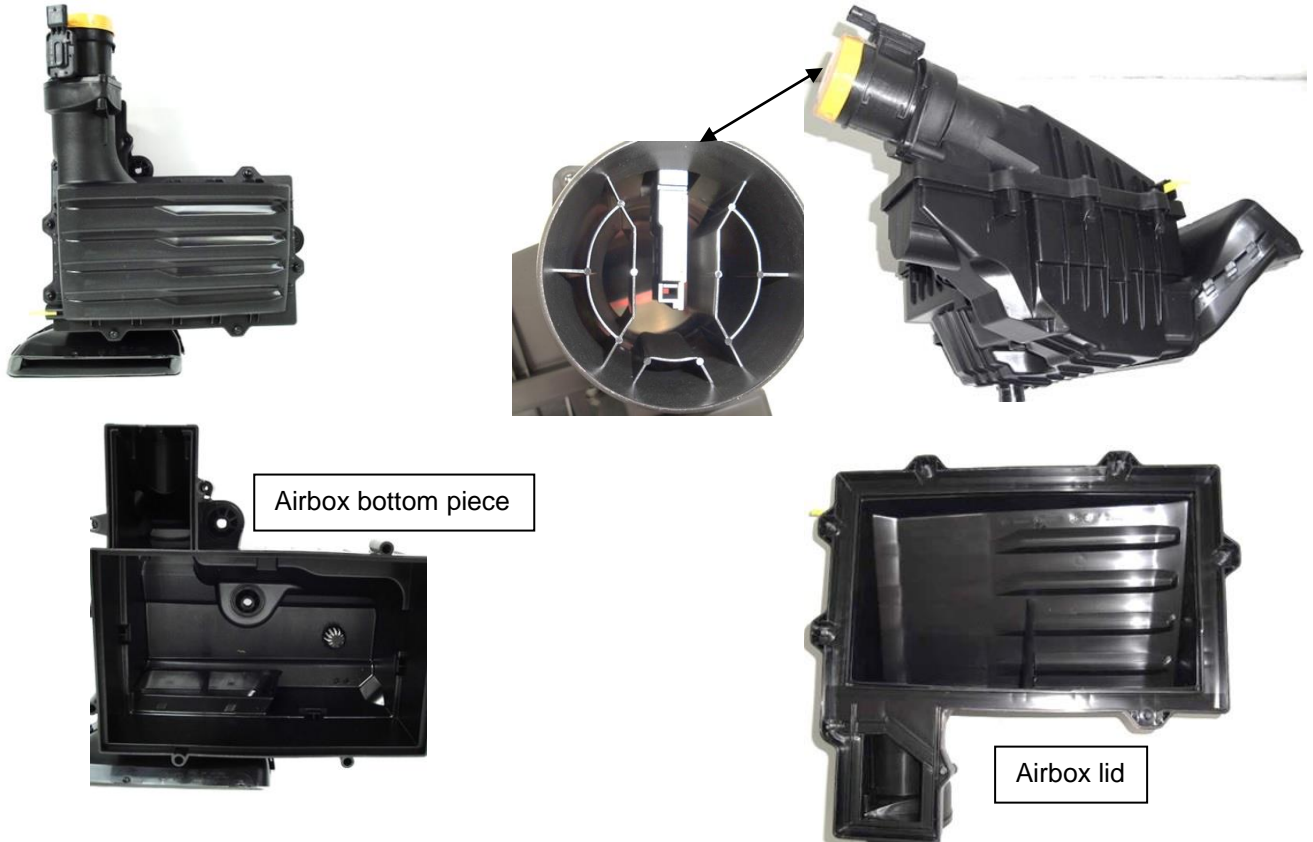


## 20. INDUCTION SYSTEM

### 20.1. Airbox

20.1.1. Part nr: 2Q0 129 601 G

20.1.2. Standard airbox as supplied by Volkswagen Motorsport



### 20.2. Air intake duct

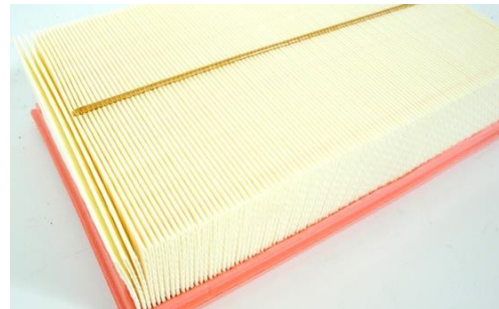
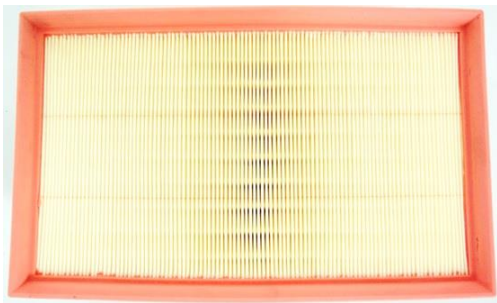
20.2.1. Part nr: 2Q0 129 509 A

20.2.2. Standard part: Airflow flap must be closed with cable ties



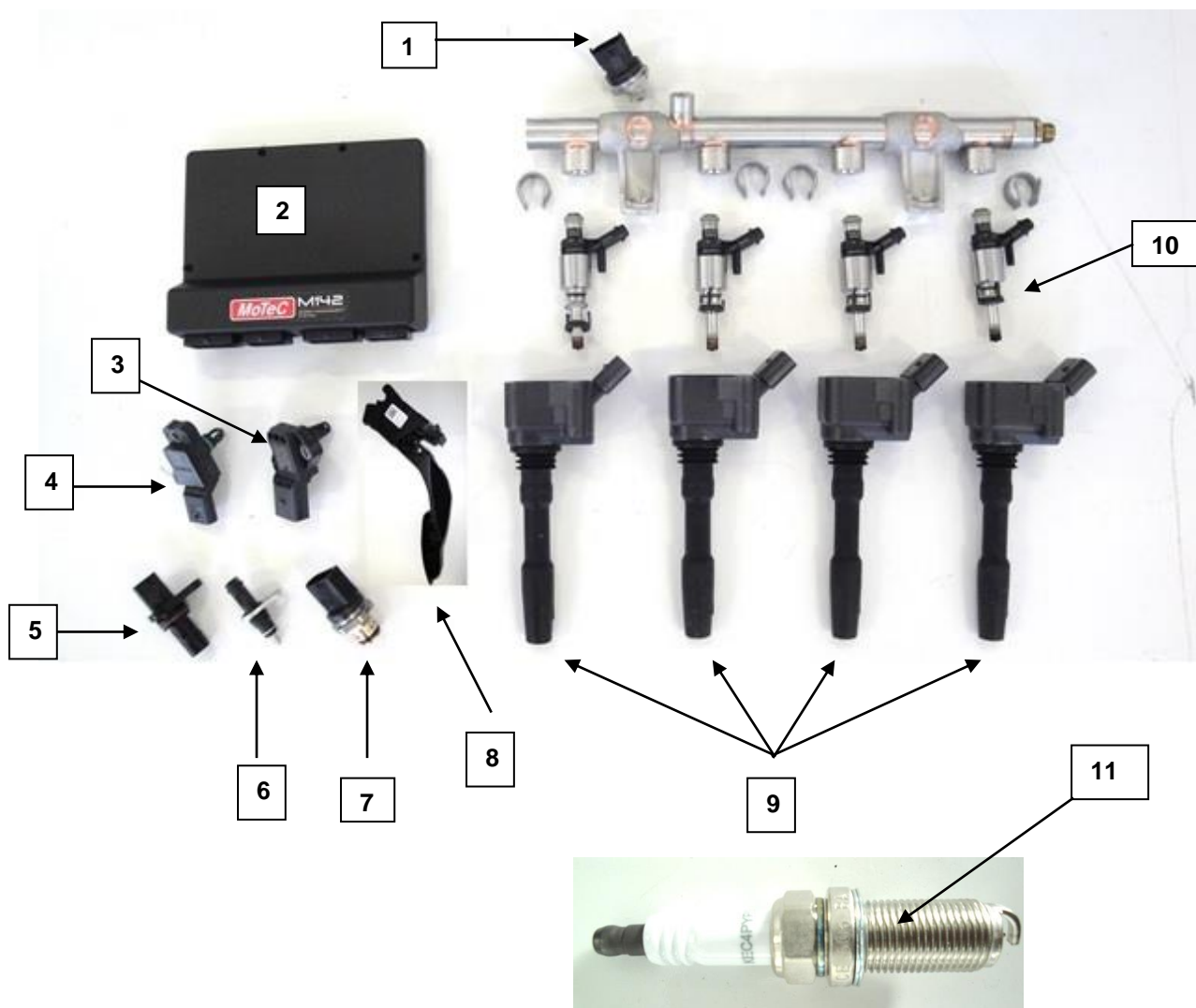
### 20.3. Air Filter

- 20.3.1. Part nr: 5Q0 129 620 D
- 20.3.2. Filter medium: Paper
- 20.3.3. The air filter must remain in its original position as supplied



### 21. FUEL INJECTION

- 21.1. Make: MoTec
- 21.2. Type: M142
- 21.3. Injector Part #: 06G 906 036 B
- 21.4. Location of injectors: Inlet manifold
- 21.5. Injector pump type: Type of fuel metering: Electronic, mapped
- 21.6. Area of flap valve: N / A
- 21.7. Plenum chamber material: Part of inlet manifold
- 21.8. Throttle Bodies: x1 per engine
- 21.9. Layout of fuel injection system:



Item #	Part #	Description
1	06L 906 054 C	Pressure sensor - Fuel
2	M142	Electronic Control Unit
3	03G 906 051 E	Pressure sensor - Boost
4	06L 906 051 C	Inlet Manifold Temperature Sensor
5	06H 906 433 D	Crank sensor
6	079 919 523 B	Water temperature sensor
7	06H 906 051 J	Pressure sensor - Fuel
8	2Q2 723 503	TPS – Throttle position sensor
9	06H 905 110 G	Coil
10	06G 906 036 B	Fuel injector – Cylinder head (x4)
	06L 906 031 A	Fuel injector – Manifold (x4)
11	KEC4PYPB	Spark plug

## 22. LUBRICATION SYSTEM

- 22.1. Type: Wet sump
- 22.2. Crankcase capacity: 5,5 litres Nominal
- 22.3. Oil filter type: Paper element: Full-flow, Part no. 06L 115 562 B
- 22.4. Oil pump type: Chain Drive
- 22.5. Location: In sump
- 22.6. Any Synthetic oil of a viscosity of 5w40 may be used.

## 23. IGNITION SYSTEM

- 23.1. Description: MoTec M142
- 23.2. Alternator 140A: Part #: 06K 903 024 A
- 23.3. Rev limiter is at 6200rpm

## 24. COIL PACK (Part No. 06H 905 110 G)

- 24.1. Make: ELDOR
- 24.2. Quantity: x4 per engine
- 24.3. Means of timing adjustment: None

## 25. CLUTCH PLATE (Part No. 04L 141 031 A )

- 25.1. Type: Standard part as supplied by VW Motorsport
- 25.2. Type 240.0 mm
- 25.3. No. of plates: 1 (one)
- 25.4. Weight: 1.10 kg



**26. STANDARD PRESSURE PLATE (Part No 06K 141 025 A)**

26.1. Mass (nominal):  $4,95 \pm 0.05$  kg



## 27. GEARBOX

27.1. Make: Part No: 02Q 300 050 P / 052 L

Gearbox codes: SQZ

27.2. Type: 6-Speed Manual MQ350

27.3. Ratios:

### TOOTH COUNT

FIRST GEAR	49 : 13
SECOND GEAR	48 : 23
THRID GEAR	47 : 32
FOURTH GEAR	38 : 33
FIFTH GEAR	35 : 30
SIXTH GEAR	32 : 33
REVERSE GEAR	36 : 13 / 23 : 14
FINAL DRIVE	69 : 20

27.4. Gearbox is sealed and may only be opened after consulting with the TC.

27.5. All gearbox levers and links remain standard as supplied except for modifications below:

#### INTERNAL

Brass end cap installed on selector fork ends.

Replaces plastic end caps.

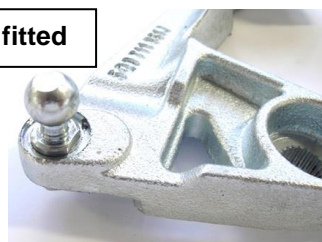


#### EXTERNAL

Swing arm weight – cut off



Link ball fitted



27.6. Gearbox oil recommendation: GL-4

27.7. Gearbox oil change: At least after ever 3 events

27.8. Oil volume: 2.2 liter (After an oil drain)

## 28. FINAL DRIVE FRONT

- 28.1. Make: VW
- 28.2. Type of diff: Conventional, Mechanical
- 28.3. Limited slip: No
- 28.4. Ratio of diff: 3.45
- 28.5. No. of teeth on crown wheel: 69
- 28.6. No. of teeth on pinion: 20

## 29. DRIVESHAFT

- 29.1. LHS Part #: 2Q0 407 271 BG
- 29.2. RHS Part #: 2Q0 407 272 BN





### 30. INTERIOR

30.1. Inside covers and trim remain as supplied by VW Motorsport.

### 31. GENERAL

30.1 VENTS IN FRONT BUMPER  
As per the below picture.



30.2 A stone protector for fitment to the lower bumper grille to protect the radiator is available from the VW Motorsport parts truck. Only this item is permitted and must be fitted.



30.3 The front grill area around the front VW Badge must get the mesh as supplied from the VW Motorsport parts truck. Only this item is permitted and must be fitted.



30.4 Front bumper clips may be cut-off to prevent the clips damaging the Intercooler.



30.5 Rear bumper insert for exhaust tailpiece.





30.6. The sump protector must be fitted at all times.



30.7. Front wheelarch covers must be fitted as supplied by VW Motorsport.



30.8. Front Headlight reinforcement brackets as supplied by VW Motorsport may be fixed to the headlight mounting brackets.



## 32. ENGINE AND GEARBOX MOUNTINGS

Mountings are reinforced and supplied only by VW Motorsport.



### 33. BATTERY

- 33.1. The recommended battery is the KARIBA 646K and 643K that must be obtained from VW Motorsport. The batteries are available in two shapes. (depends on supplier stock)



- 33.2. Location: The battery is situated inside the battery box which is mounted in the boot/spare wheel well area.

33.3. Battery box material is fibreglass or plastic and the shapes differ. Fixing brackets remain the same





## 34. SUBFRAME AND WHISHBONES

34.1.1. The only subframe allowed is the modified part from VW Motorsport

34.1.2. The only wishbones allowed is the modified part from VW Motorsport



## 35. REAR AXLE

35.1.1. The rear axle hanger brackets are sealed to the chassis and may only be removed after consulting the TC.



Part number has not changed but the stiffness has. (Stiffer axle) Only the stiffer axle is available but the previous axle may be used.



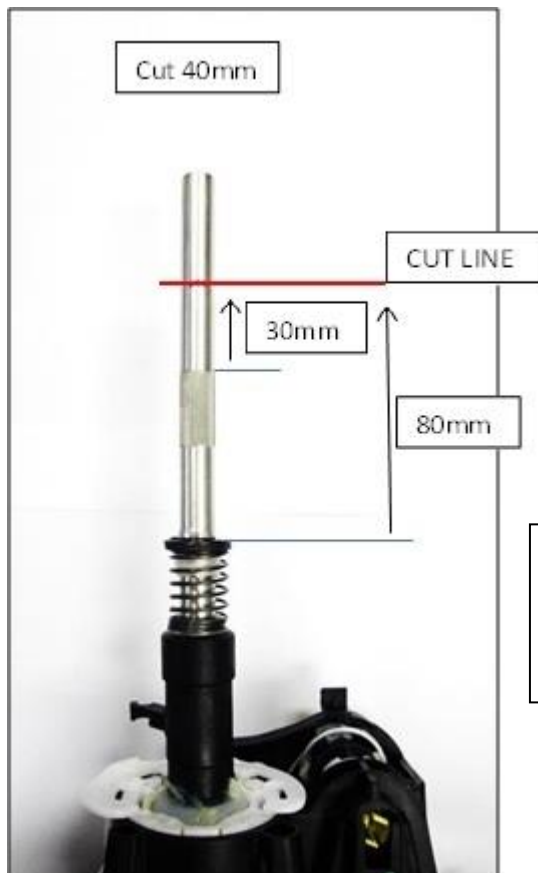
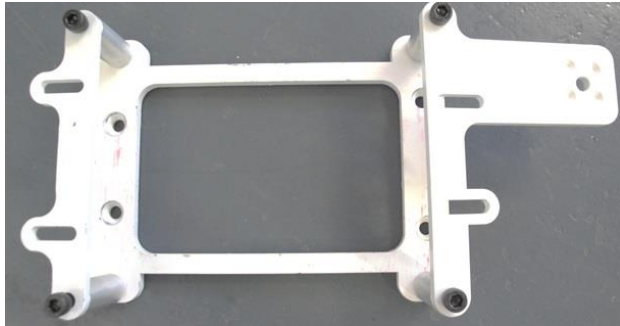
Bushes  
Colour:  
Blue or  
Orange



### 36. GEARSHIFTER AND MIXER



**Cut-out made in tunnel for gearshift cables to pass through.**

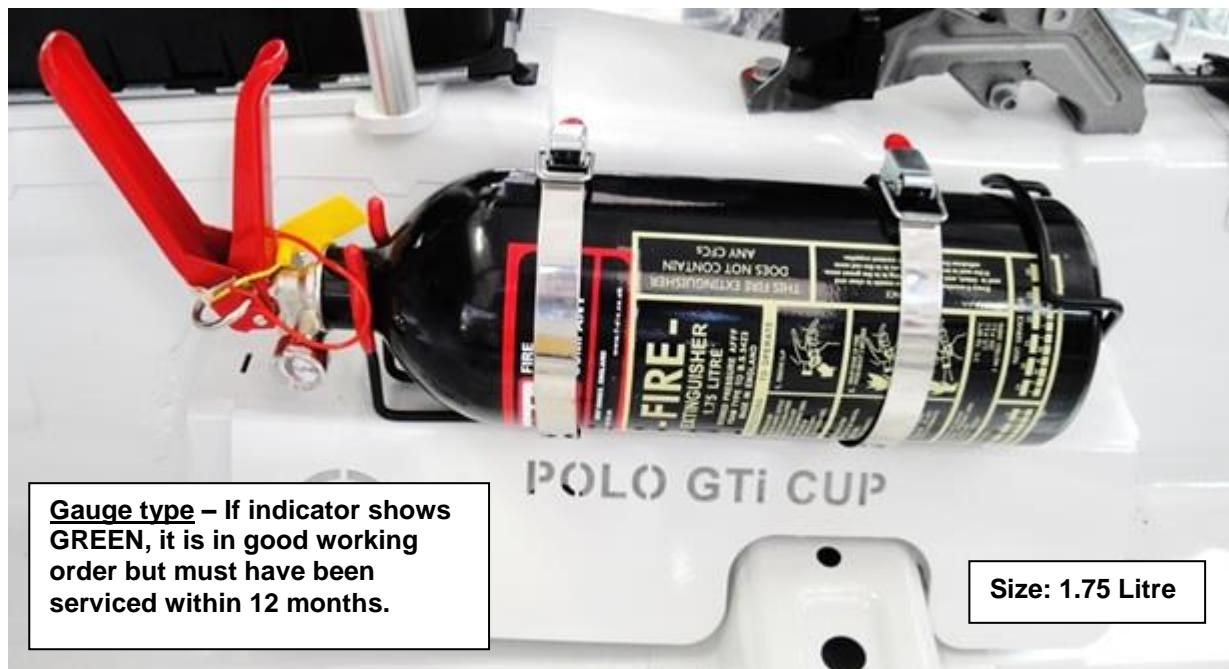


**Gearshift may be cut 40mm or the gear knob inside may be drilled to lower the knob position for driver comfort.**

### 37. FIRE EXTINGUISHER

36.1 The fire extinguisher is available in two colours, BLACK or RED and must comply too GCR257.

36.2 Recommended service for gauge type is, 1years (12 months)



### 38. STEERING WHEEL

38.1.1. The original supplied “push-to-pass” button must be fitted.

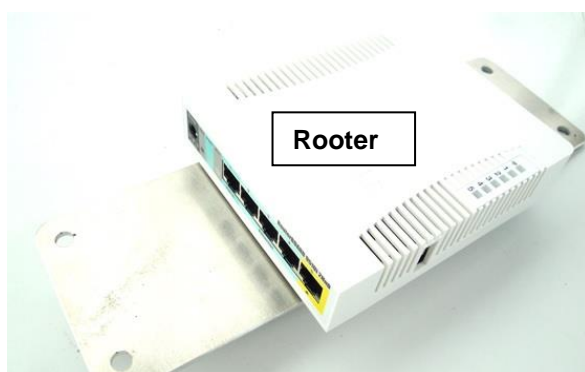
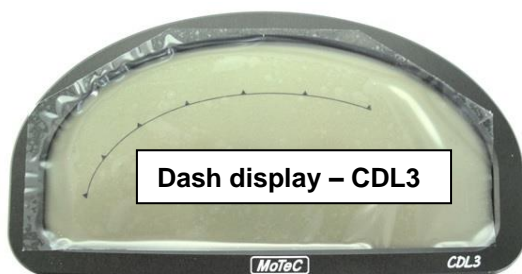
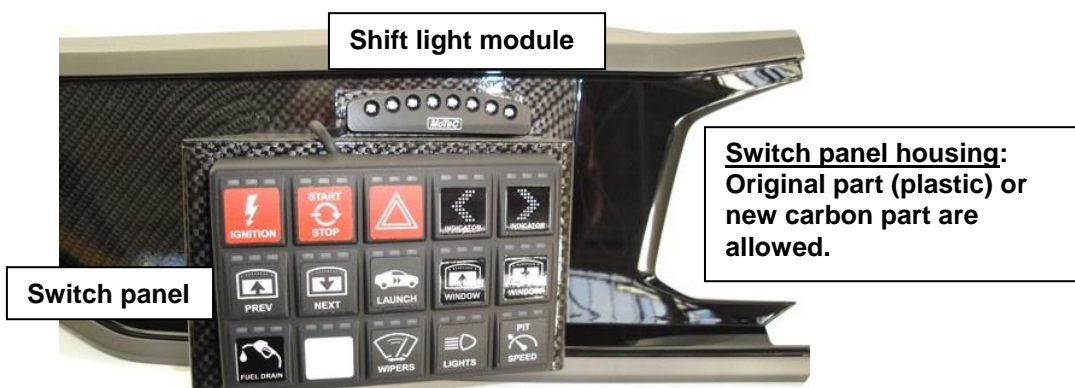
The positioning on the steering wheel can be for driver comfort.

38.1.2. Steering boss extension is allowed and/or clip-on steering mechanism





## 39. ELECTRONICS



- 39.1. Wheelspeedsensors (x4), one per wheel, must be connected at all times.
- 39.2. Camera – In car camera/camera's type is FREE.  
The recommended camera is the Motec Model V2.



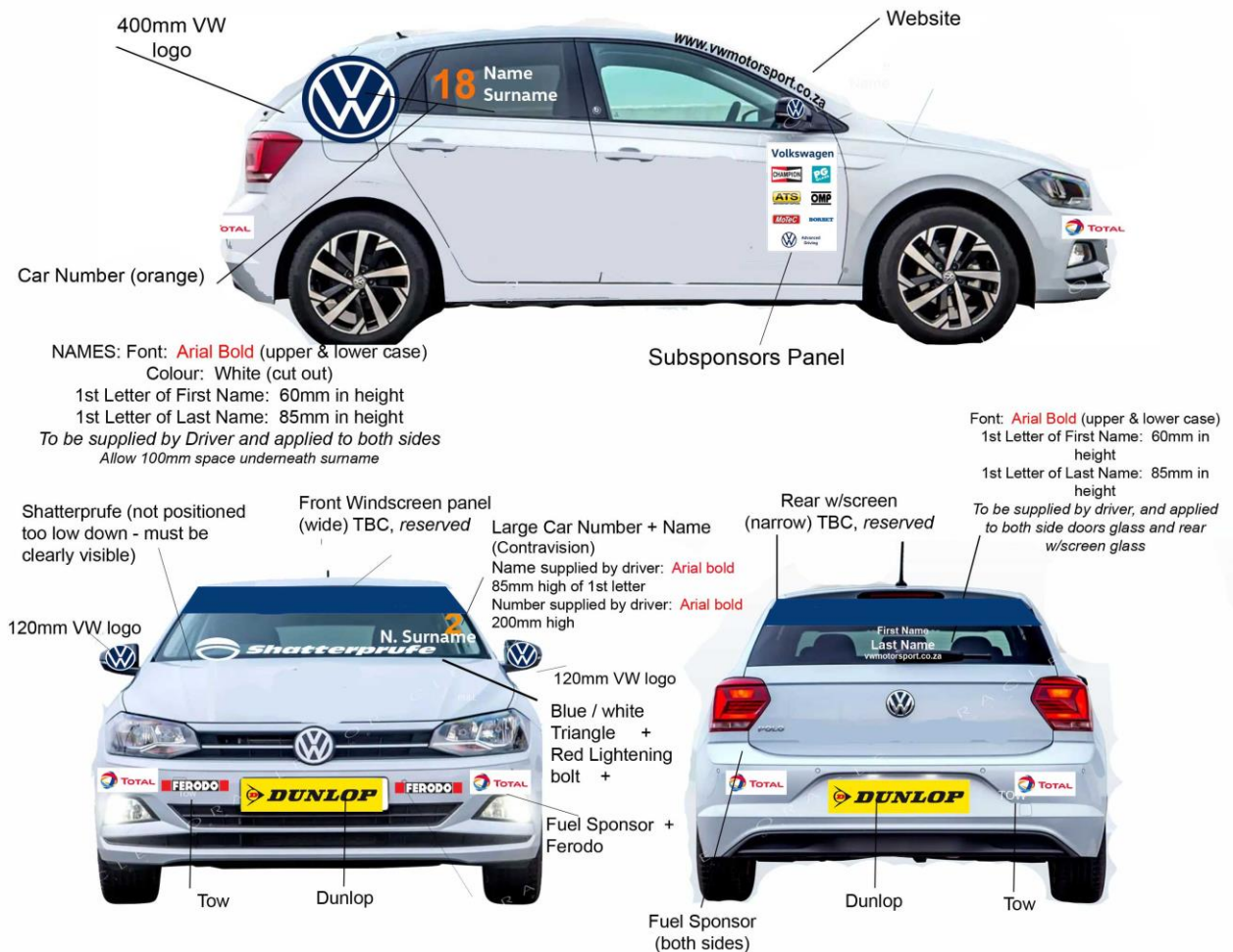
## 40. WEIGHT PLATES

- 40.1. Only weight plates supplied by VW Motorsport may be used and must be installed in area provided behind driver seat on the floor.



## 40. DECALS

### Polo Cup Decal layout 2021



## DECLARATION

In submitting this model for registration and homologation, I confirm that to the best to my knowledge and belief the data and information listed in this document are truly representative of a normal production unit.

SIGNED:	<i>Michael Rowe</i>
FULL NAMES:	MICHAEL ROWE
DESIGNATION:	MOTORSPORT MANAGER
REPRESENTING:	<b>VOLKSWAGEN MOTORSPORT</b>
DATE:	12.05.2021
DATA CHECKED BY:	COBUS BARNARD

ACCEPTED FOR REGISTRATION BY MSA: \_\_\_\_\_

DATE: \_\_\_\_\_