Audi RS 3 LMS

WORKSHOP USER MANUAL 2021

This document is focused on the Audi RS3 LMS workshop maintenance.

Audi Sport
customer racing

TABLE OF CONTENTS

1. GENERAL FEATURES

1.1. Car features

Bodyshell	Audi RS3 bodyshell motorsport adapted and lightened / Audi Safety-cage ASN/FIA homologated / airjack lifters
Bodywork	Audi design / fully carbon fibre bodywork parts
Engine	4 cyl 2.0 cc turbo-charged with intercooler / Marelli mts. ecu srg-141 -logger integrated / double water radiator cooling system / wet oil sump
Transmission	2WD 6-speed sequential gearbox and slip differential external preload adjustment Multi disc sinter-metallic motorsport clutch Pneumatic paddle shift operated Motorsport drive shaft with outer CV joint heavy duty and inner Tripod
Electronics	Advance display & keyboard AUDI multifunctional steering wheel module / Power box modular concept Full led headlamps
Suspension	Front McPherson suspension / 2-way strut / coil spring / ARB / wide range of adaptive adjustments Rear suspension 4 arms-multilink axle / 2-way strut / coil spring / ARB / wide range of adaptive adjustments
Fuel tank	100lts motorsport fuel tank FT3 homologated / Quick refuelling valve
Brakes	Adjustable pedal box brake with spherical bearing mounted master cylinders / brake bias adjustable & rear brake pressure limiter 6-piston monobloc calliper / 378 mm steel ventilated discs 2-piston monobloc calliper / 272 mm steel solid disc
Steering	Electrical power assisted rack and pinion / Mts. SW
Rims	18x10inch AUDI Racing design
Internal equipment	Customized racing carbon seat & 6 points safety harness HANS compatible Flat steering wheel 330mm with shifting paddles & quick release system Lifeline fire extinguisher system

OPTIONAL

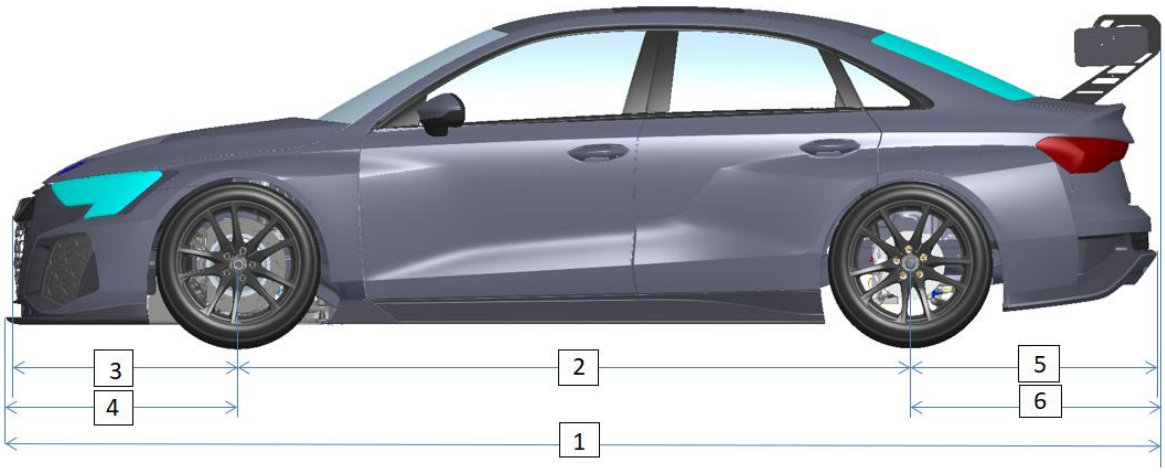
ABS	Bosch M5 motorsport ABS system kit
External refuelling	Optional cap and cap-less system kit
Exhaust silencers	Silencer pipe

**Specifications subject to change*

1.2. Car dimensions

Bodywork parts fixing have tolerances to aid in a good fit. Periodically check that they are in accordance with the regulations

OVERALL LENGTH	4574 ± 10 mm	**1**
WHEELBASE	2665 ± 10 mm	**2**
OVERHANG FRONT BUMPER	893 ± 10 mm	**3**
OVERHANG FRONT SPLITTER	920 ± 10 mm	**4**
OVERHANG REAR WING	989 ± 10 mm	**5**
OVERHANG REAR BUMPER	978 ± 10 mm	**6**
OVERALL BODYWORK WIDTH	1950 -1%	**7**



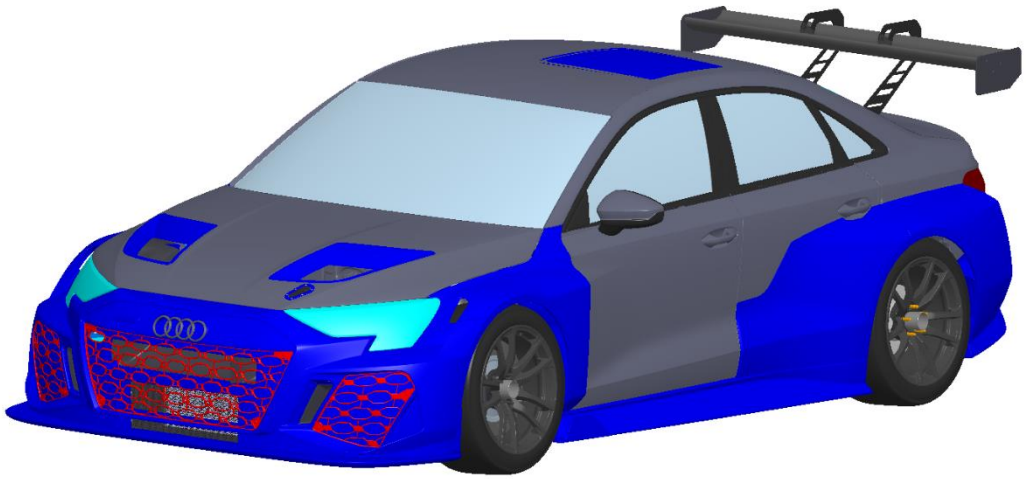
Car Weight - Empty-		
Minimum Racing Weight - With Driver-	1265 kg	*depending on latest BOP
Minimum Ride High	80 mm	*depending on latest BOP

1.3. Bodywork features

DESCRIPTION	MATERIAL
Bodywork	Carbon fibre
Front splitter	Carbon fibre
Lockarit	Carbon fibre
Windscreen	Glass *optional in plastic
Windows	Glass
Rear window	Glass
Front grill	Plastic

Paint finishes:

Description	Code and finishing
Body work spare parts finishing	Carbon (raw)
Body shell color	Z7S Daytona Grey
Black satin finish	5AP / 9B9

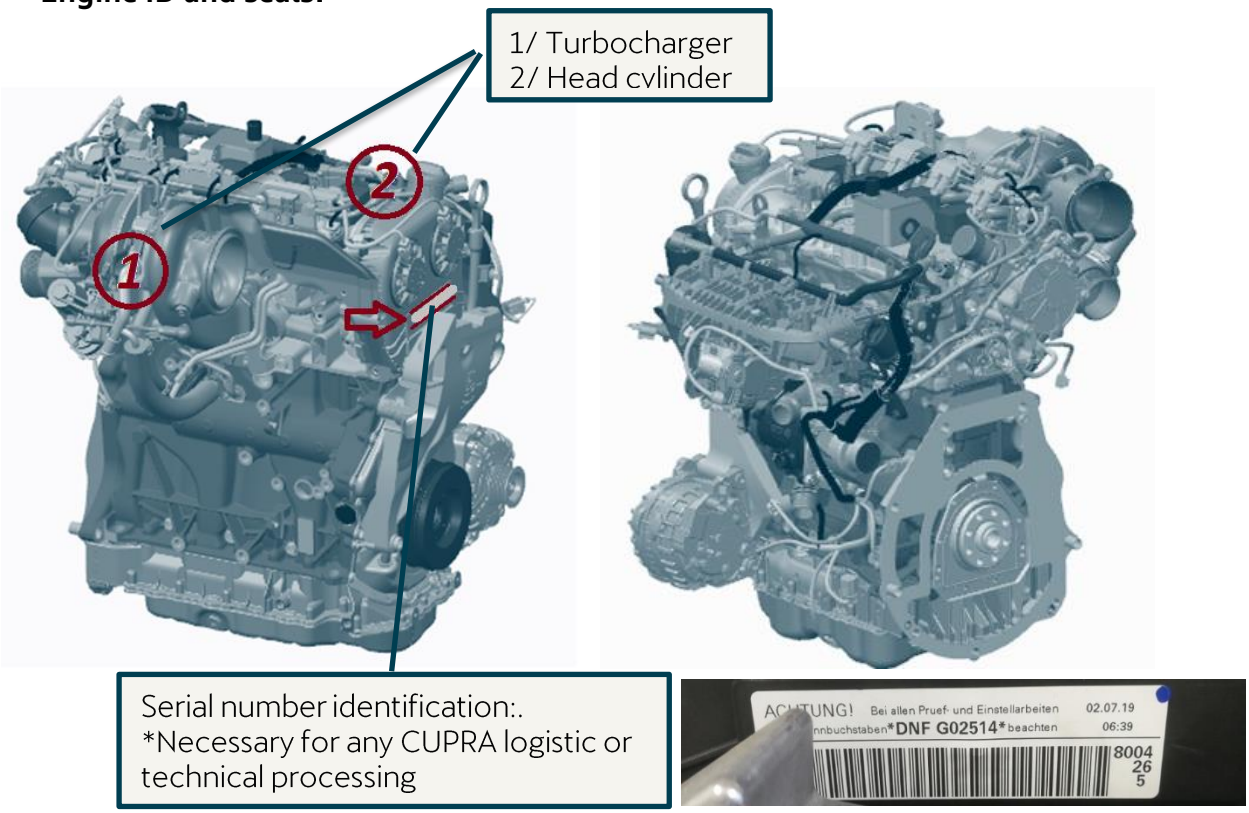


2. ENGINE

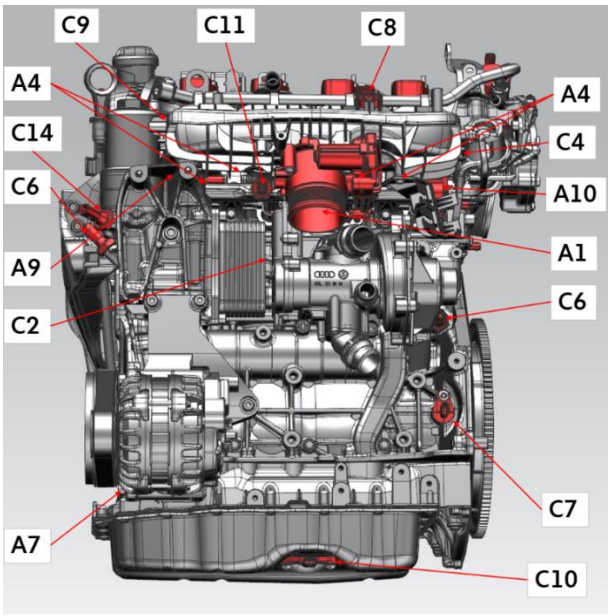
2.1. Engine features

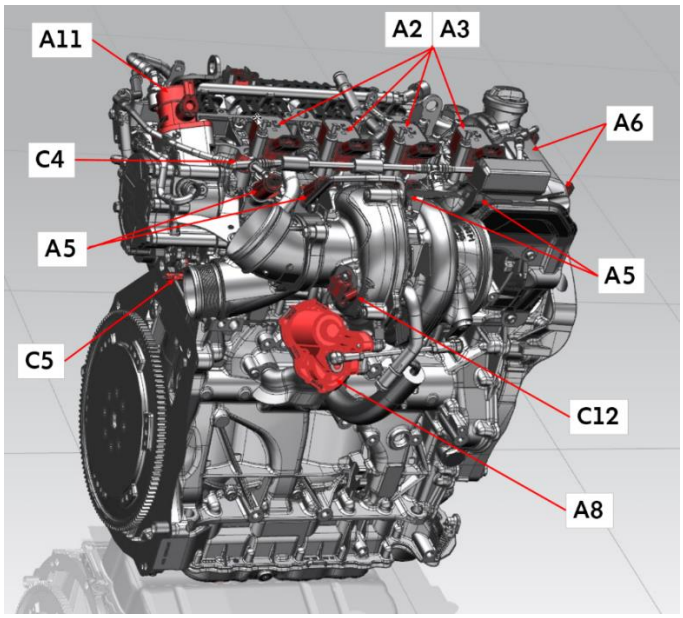
Engine ID letters	**DNF**
Maximum power	250 kW (340 hp) at 6250 rpm
Maximum torque	420 Nm / 2500 -5500 rpm
Maximum rpm	7000 rpm
Fuel	Min. 98 ROZ / E15
Fuel consumption	Approx... 0,5 l/km
Turbocharger	Volkswagen AG. (Sealed)
Lubrication	Wet sump / Catch Tank
High fuel pump	Volkswagen AG
Distribution	Chain (Sealed)
Cooling	Mechanical Water Pump / Electronic Thermostat
Fan	Motorsport fan / ECU managed
Spark plugs	NGK R-9º

Engine ID and seals:



2.2. Sensors and actuators location



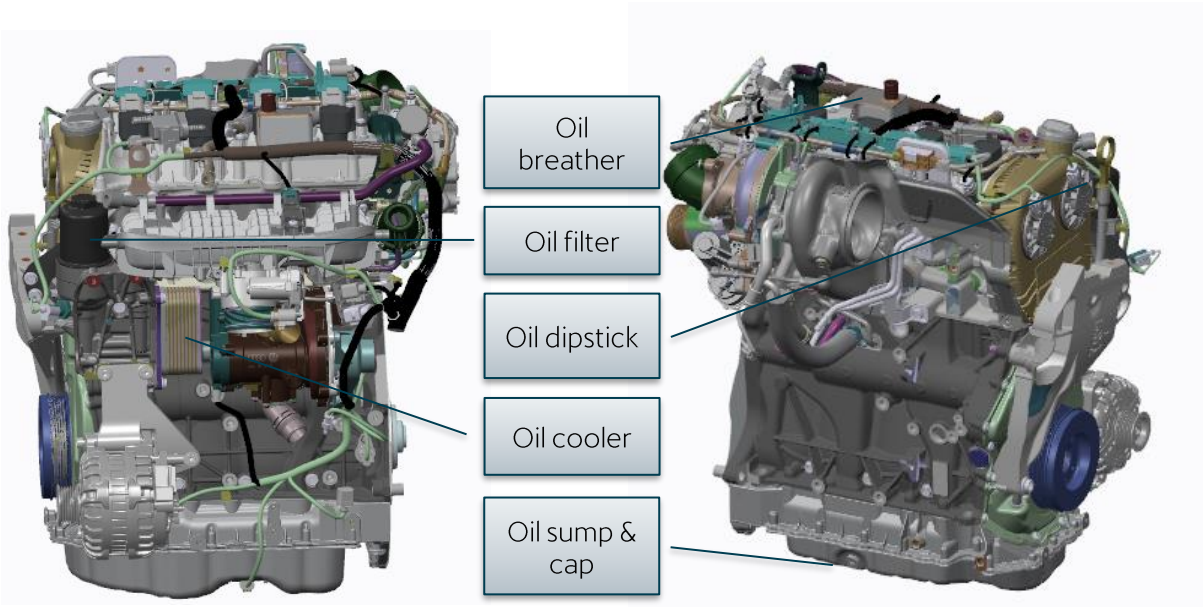


Sensor	*Description*	*Actuator*	*Description*
C2	KNOCKING SENSOR	A1	THROTTLE VALVE
C4	CAM SPEED (2)	A2	INJECTION COIL
C5	WATER TEMPERATURE	A3	SPARK PLUG
C7	ENGINE SPEED	A4	DI INJECTOR
C8	BOOST PRESSURE AND TEMPERATURE	A5	EXHAUST CAM ADJUNTMENT
C9	INTAKE MANIFOLD FLAPS POTENTIOMETER	A6	VARIATION VALVE
C10	ENGINE OIL LEVEL AND TEMPERATURE	A7	OIL PRESSURE REGULATOR
C11	FUEL PRESSURE (HP)	A8	WASTE GATE REGULATOR
C12	TURBOCHARGER SPEED (Not functional, used as plug)	A9	COIL PISTON VALVE
C13	LAMBDA PROBE	A10	INTAKE MANIFOLD VALVE
C14	OIL ENGINE PRESSURE	A11	FUEL PUMP (HP)

IMPORTANT: An electronic calibrations process is needed in case of engine substitution or some electronic pieces. SYSMA sw (Turbo. Engine throttle, Foot throttle). See the car electrical manual

2.3. Engine oil system

Engine oil system	Wet sump / mechanical oil pump / breather with catch tank
Oil capacity	4.7 lt. (use dipstick at max level mark)
Type of oil (recommended)	Castrol Edge 5W-30 LL 507
Oil cooling	Exchanger Water-oil
Operating oil pressure	4 ± 0.3 bar



2.4. Engine water cooling

Engine water cooling system	Double water radiator in parallel mounting
Cooling capacity	8 lts
Type of coolant	G-12 EVO / G13
Mix of coolant	33% G-13 & 67% distilled water
Drive system	Mechanical water pump main /auxiliary water elec. pump / electronic thermostat
Thermostat range	Operating range 92°C to 87°C
***Fan range (Option)**	ECU controlled (switched off >100 km/h)

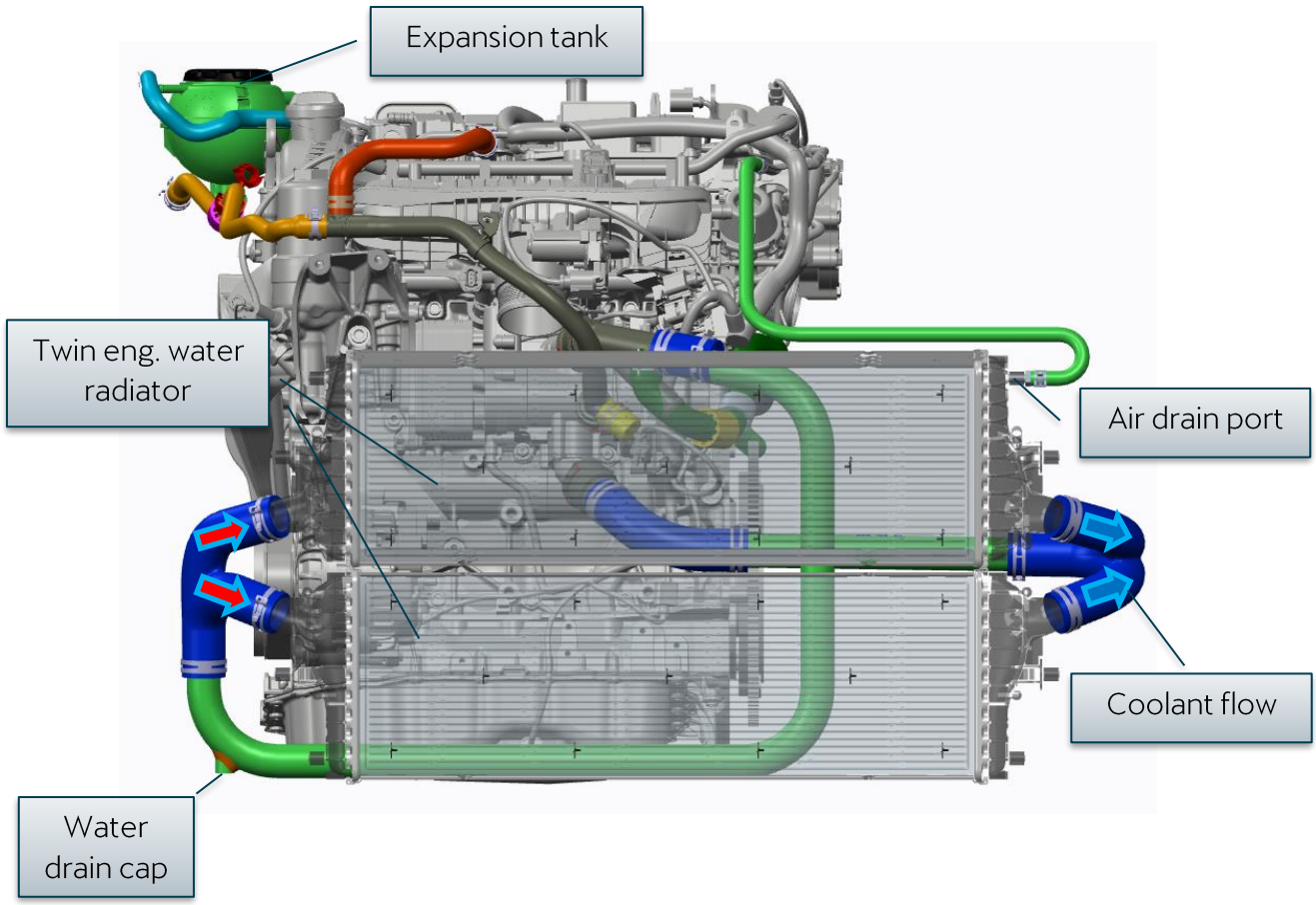
Notes:

\ G-12 EVO or G13 coolant mixture lower than 33% might cause internal corrosion in the engine. It is not recommended.

\ Fan: Presented as Option at the Homologation Form.

IMPORTANT: In case of NO water radiator **fan** use, the use of external fans will be MANDATORY in pit stops, parc fermé or other workshop situations when there is no velocity and engine is running. The consequence of an overheating can cause irreversible engine damages.

Water cooling system view:



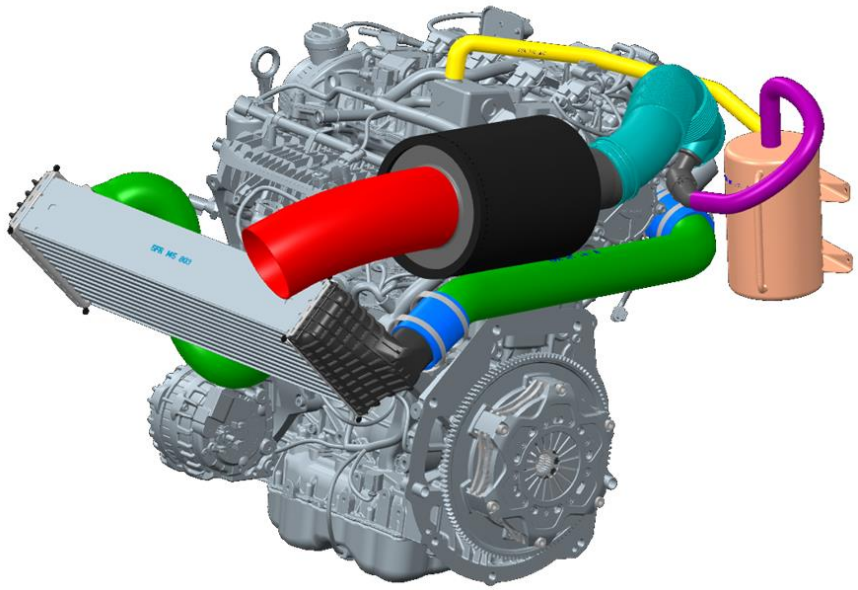
Notes:

\ Check frequently the water radiator core vanes are in good conditions.
\ Both radiators are the same in the spare parts catalogue. Only the upper one needs the draining adaptor connected to the port. (Available on the parts catalogue).
\ Check occasionally the expansion tank coolant level. Conditions: ≥80º

2.5. Engine air intake and cooling

System	Air intercooler
Airbox (CDA)	Carbon Dynamic Airbox Reinforced cotton air filter -6 layer-

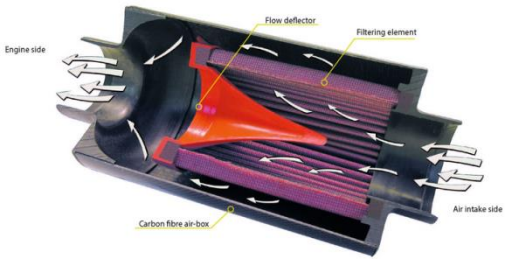
Engine air intake and cooling view:



Intercooler:

\ Check eventually the intercooler core vanes are in good conditions. Clean and straighten the core if it is necessary.

Air filter:



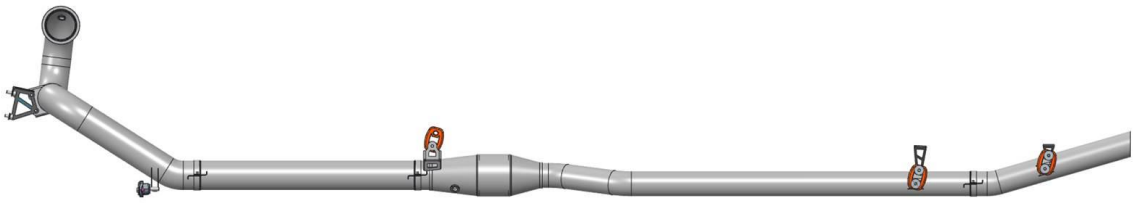
\ Maintain the air filter in optimum conditions. Turbo charger life depends on it.
\ In circuit with sand or dirty extreme the air filter maintenance. Use different cleaned filters units between practice and race are an option.

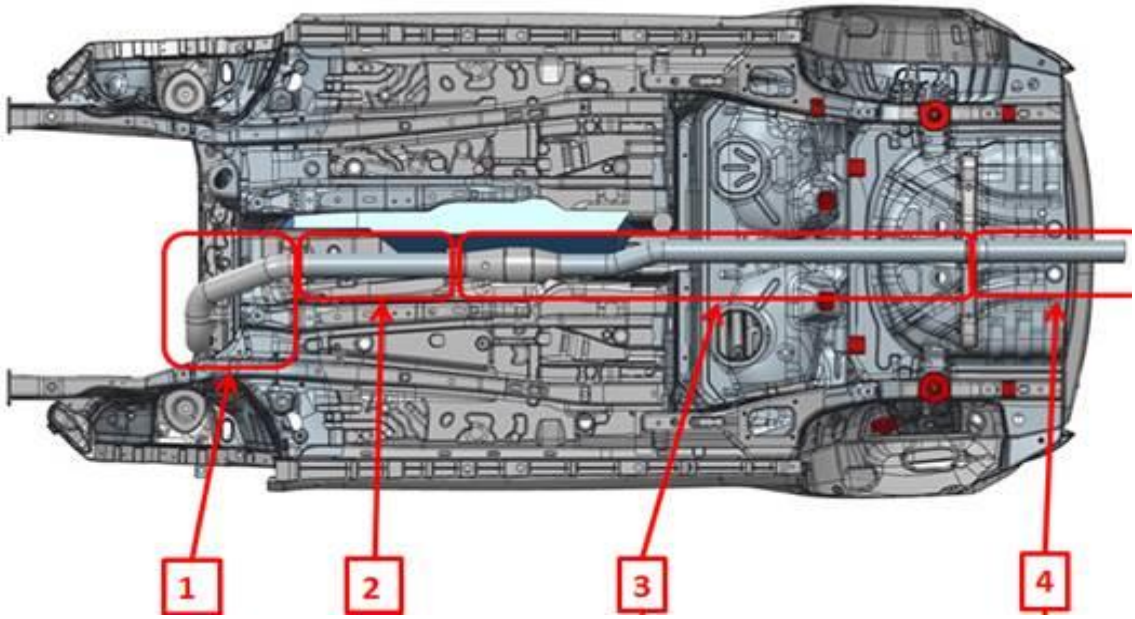
Catch tank:

\ Eventually drain the catch tank, might have small amount of condensation vapours fluid.
\ In case of clear presence of oil, check oil dipstick level and check the engine cylinder leakage. See point 9.2 Engine mileage.
\

2.6. Exhaust

Exhaust diameter	Downpipe Ø88.9 / Ending Ø76
Catalytic Homologation number	DMSB-CAT-1-31/20
Noise level std exhaust	115 dB
OPTIONAL:	
Silencer (pipe nº 2)	95 dB (see notes below)
Isolated pipes	Down pipe (std part nº1) Isolated
	Intermediate and Catalytic (nº 2&3) Isolated. (optional part, see Catalogue)





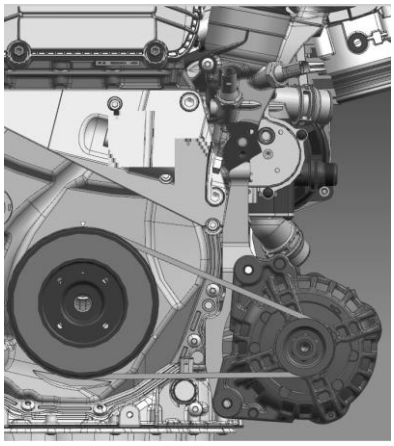
Notes:

- Check periodically the downpipe supports are in good conditions (no cracks or untighten bolts on the engine and subframe supports)
- Noise measure process is always subject to measurement circumstances, so there may present variations

2.7. Alternator

Alternator	90 Amp / fix pulley
Type of belt	Continental Poly-V Belt ELAST

Special Poly-V-belts DIN 7867 for drives with fixed centre distances without a separate tensioner. Use the right tooling for elastic belts to install - uninstall the elastic belt. (tooling Not Parts Catalogue available)



3. TRANSMISSION

3.1. Transmission features

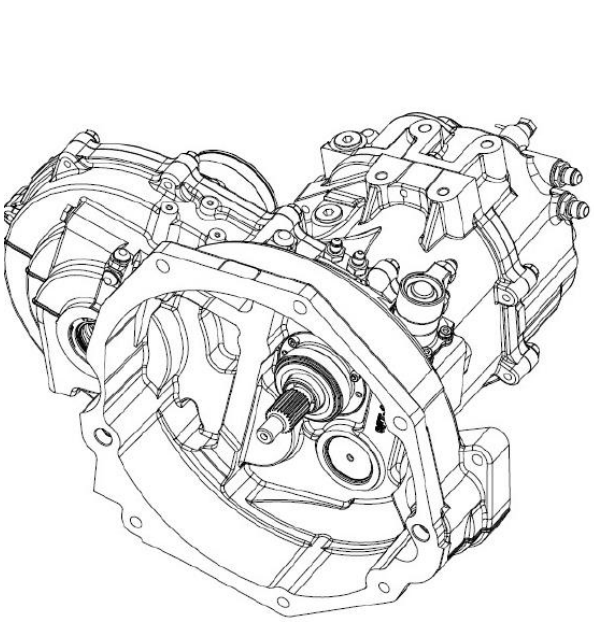
Gearbox	CFT-200 Hewland
Differential	Mechanical differentia l with external preload adjustment
Diff Friction Plates	12 friction surfaces Number of friction faces is adjustable by re-ordering plates
Gearbox Actuator	Integrated mechanical shifter / pneumatic drive
Weight	43,5 kg (including actuator shifter)
Shift Control	Paddles shift on steering wheel
Gbx Cooling System	Integrated mechanical pump with oil cooler
Oil	ELF HTX 755 / 80W-140
Capacity	Gbx 2.25 l. (2.5 L including radiator)

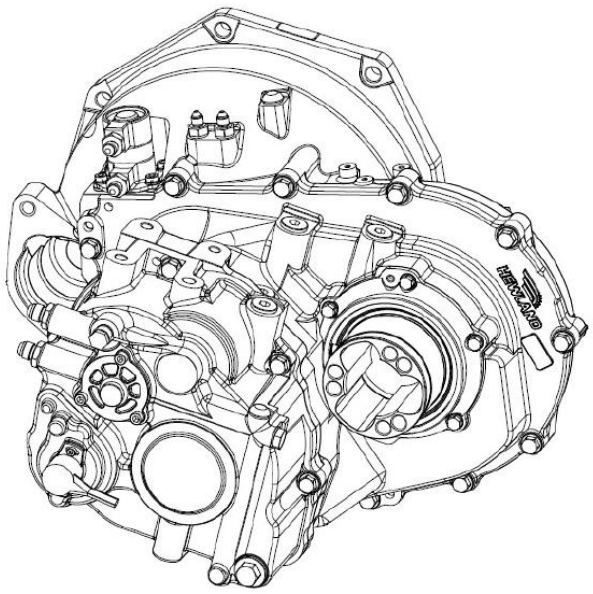
CFT-200 GEAR RATIOS				**SLIP DIFF**	
RPM max 7000				Side gear ring angle	45º / 30º
R. effect. 322 mm		Final Drive 15/57		Delivery diff pre load*	50 Nm
GEAR	**RATIO**	**Max Speed**	**Gear POT**	Friction surfaces	12
1st	12/28	95.84	1.,65		
2nd	13/23	126.39	2,22		
3rd	22/31	158.69	2,78		
4th	21/24	195.66	3,35		
5th	26/25	232.56	3,91		
6th	29/24	270.20	4,97		
Reverse			0,53		
Neutral			1.10		

Optional slip differential angles.
The side gear ring optional part are designed with flat spider trunnion contact area, increasing the ramping surface
Every ramp angle corresponds to each spider

OPTIONAL SIDE GEAR RING TRIPLE			
RAMPS (PAIR)	SPIDER	SPIDER	SPIDER
CS-1824-C	CS-1825-30X45	CS-1825-30X60	CS-1825-45X60
30°/45°-30°/60°-45°/60°	30X45	30X60	45X60

3.2. Gearbox ports

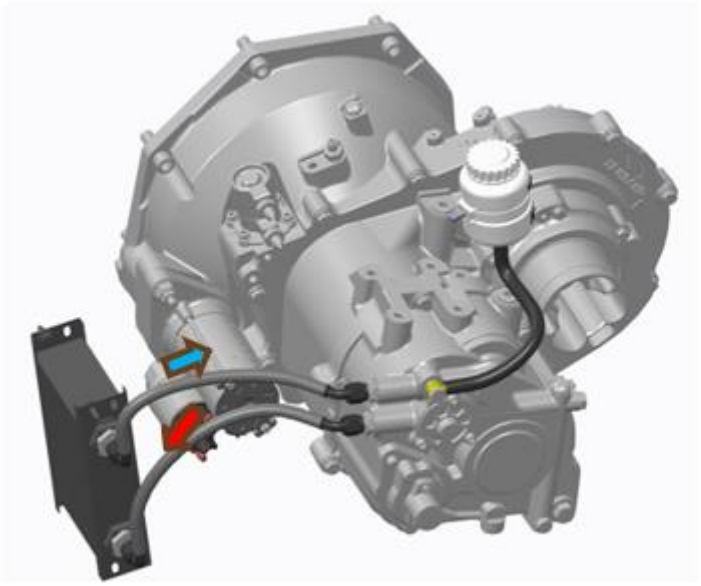




Notes:

- To carry out the maintenance and service of the gearbox see the Hewland CFT200 MANUAL, available on the motorsport online platform.

Gearbox cooling view:



Note:

- If there appears oil in the breather reservoir, means that the gbx oil level is excessive. Check quantity, but never run with less oil than recommended!

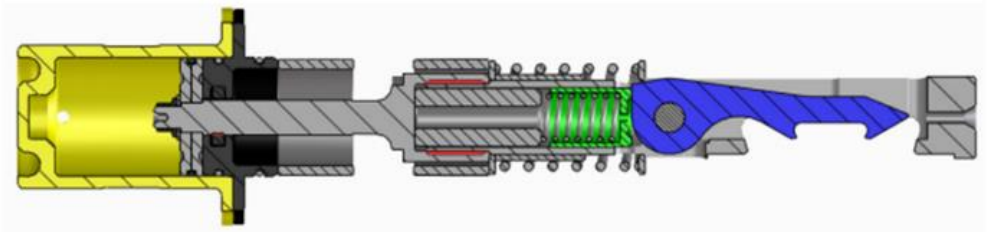
3.3. Shifting system

System Type	Pneumatic / Hewland
Compressor	Electric
Barrel elec. management	PNU-060 valve block high flow
Actuator	Pneumatic Integrated in the gearbox
Gearbox Actuator	Integrated mechanical shifter / pneumatic drive
Filter	Compressor foam pre filter Accumulator block outer filter

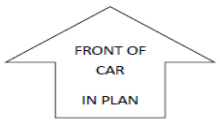
Shifting system maintenance:

- Clean the compressor pre-filter periodically
- Clean the accumulator pot filter periodically
- Disassemble and clean the valve block. See point n°8 Maintenance for the service. Follow the PNU-060-valve block instructions available on the web mts platform.
- Important part of the shifting is the actuator. I is recommended to clean and grease the PNU.136-C piston at least one per season.
  There is a small using grooves on the carcass, put a leverage and move up the cap (yellow) and clean the dirty and clean the O-rings.
  See the CFT 200 user manual for more details

PNU.136-C

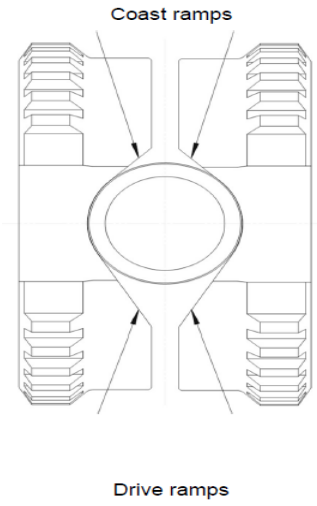


3.4. Slip differential



Brief summary of slip differential described on the Hewland CFT200 Manual:

- 45/30 Ramp angle: 45º ramp transmits less sideways force than a 30º ramp. The drive and coast ramp set can simply be swapped over by inverting it in the diff cases.
- To alter the number of friction surfaces, simply re-order the plate stack to change the number of relatively rotating faces.
- The preload depends of on how tightly the plate stack is compressed on assembly. The preload can be set by tightening the diff cap to set positions.
- When the diff is assembled the pre-load torque must be at least 10 Nm, but can be greater if required.
- New plates “run in” and lose pre-load quickly when they are bedding in, so it advisable to use a higher pre-load than with “used plates”.

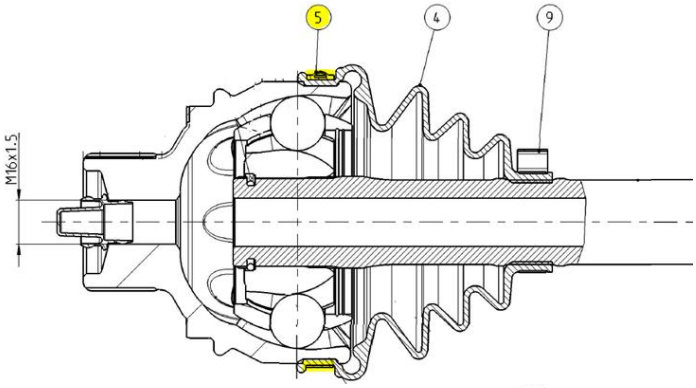


3.5. Driveshaft

Driveshaft	Audi, bespoke **/** Symmetric left and right
Joints	Outer CV joint heavy duty / inner Tripod joint
Outer joint grease	GKN - HT1LF / 250g GKY H-15 / 100g
Inner joint grease	GKN - HT1LF
Boot clamps	96-08 / use original Audi parts only (see catalogue)
Link shaft	Audi specific

CV-Ball Joint

- CV-Joint grease qty reduced from 150g. to 120g.
- GKN CV-Joint Motorsport grease, 350g tube:
    - Cupra part nº: VN0000040401
    - GKN part nº: M59U024



- Use of universal clamps, is accepted, pos-5
- CV-Ball Joint

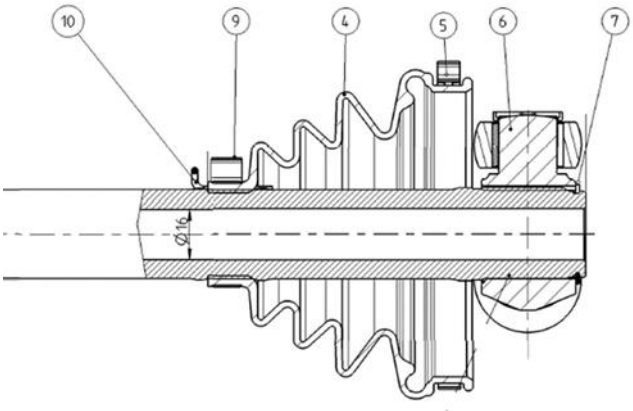
- Pos. 5: Nominal closing diameter of low-profile clamp 96,5mm

- Pos. 9: Nominal closing diameter of ear clamp 31.9 mm

- Use of tire-up clamps is accepted in pos-9. Is recommended to not tight too much
- Assure to dry both parties before to install a new boot.

Tripod joint:

- Tripod joint grease qty **100g.**
- Tripod joint grease 350g tube:
    - Cupra part Nº.: VN0000040601
    - GKN part nº: M59U025
- Boot clamp part Nº.: 5FR407292
- Tripod Joint



Pos. 9: Nominal closing diameter of ear clamp 31.9 mm

Pos. 5: Nominal closing diameter of 93.3 – 96.5 mm

- The use of a breather clip is mandatory. Pos-10
- IMPORTANT: Due the wide wheel camber range the boot of the tripod might remain in tension when high camber set

(>5º) is applied. Loosen the clamp in the shaft (part nº 9) or replace for a nylon tie wrap and do not tighten too much to allow the boot move a bit along the shaft.

Notes:

\ Recommend maintaining the rotation sense for the drive shaft life. Mark before dismounting.
\ Do not put the car on the floor without wheel bearing load. Tighten the driveshaft CV joint with the car lifted**. (240 Nm + 90º).**
\ Boot-clamp: The gap between the outer boot-clamp and other mechanical parts is low. Use only the original parts recommended in the AUDI parts catalogue.

3.6. Clutch

Clutch	Alcon / Twin plate racing clutch
Cutch Diameter	Ø184 mm (7,25”)
Pedal box Master cylinder	Ø15.9 mm / Tilton flange mounting
Weight	3.40kg (inc. drive plates)
Discs	Two sintered / fulcrum disc ø157mm VAG specific

Before installation onto the vehicle ensure:

- The clutch fits the flywheel correctly i.e. pot or step location, bolt PCD and diameter.
- The mounting bolts or studs are of the correct length.
- All parts are present and are fitted to the clutch in the correct orientation (see installation drawing.
- The driven plate(s) are free to move on the input shaft.
- The pressure and floater plates are free to move on the cover legs.

Note: is recommended to wait 2 laps between starts with Launch System practice to avoid overheating the friction faces.

*See **Alcon clutch care** and **installation drawing** manual in the online platform for detailed information.

4. SUSPENSION AND STEERING

All kinematic, suspension and steering adjustment are described in the suspension manual. See specific document.

4.1. Shock absorbers

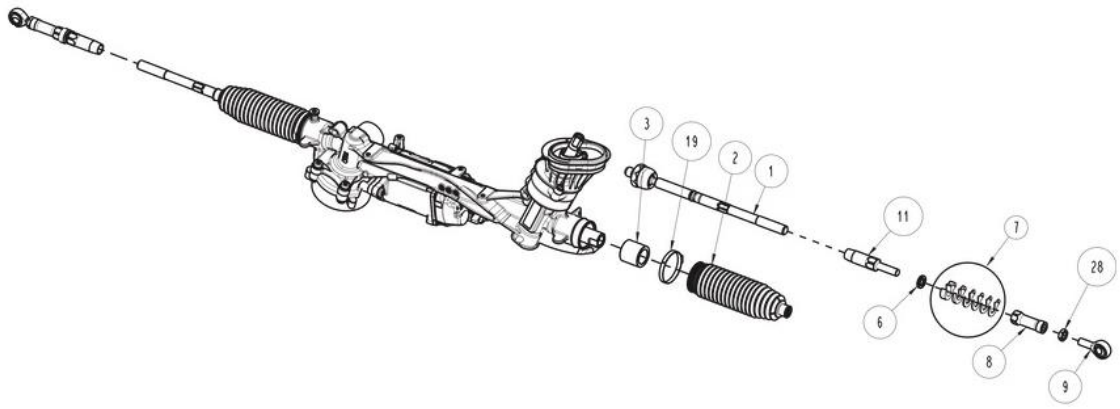
Front Motorsport BILSTEIN MDS damper

2-way adjuster for separate adjustment of the bump and rebound
10 adjustment clicks for each bump and rebound
Front: 20 mm upright height regulation
Front: 115mm stroke (75mm free + 30mm bump-stop (5KN / 7mm) + 10mm packer)
Rear: 113mm stroke (48mm free + 35mm bump-stop (5KN / 7mm) + 3x10mm packer)

To carry out the damper maintenance see the BILSTEIN Damper Manual available on the VAG internet platform.

4.2. Steering rack

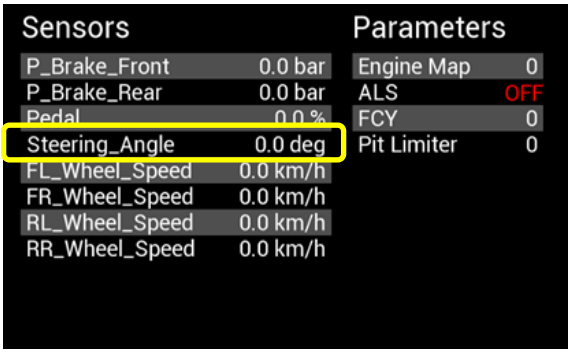
Steering	Electrical steering rack / Motorsport data set
Steer rack stopper	36 mm
Turning radius	8.6 m



Zeroing the steering rack:

The steering rack is electric assist. Electronic steering angle “zero” is already calibrated in the motorsport production steering racks cars as well as spare parts motorsport.
In case of set up changes, the steering angle sensor has to be electronically aligned with the rack and pinion at the same time. Is recommended to proceed as follows:

\ Switch on the car and scroll display pages to the “Sensors page”



\ Steering angle value 0º ±1.5º
\ If steering angle delta is more than ±1º the recommendation is to loosen up the column steering hub and mechanically centre the 0º on the rack. Then fix the hub.
\ Tie up the steering wheel. Use straps or your own tool for it
\ Proceed now with the mechanical steering bars Toe adjustment

Toe adjustment

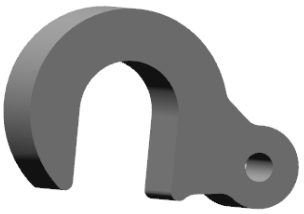
The toe setting can be made by the combination of shims with different thickness in order to get the required toe at the wheel. The available shims are **0.8, 1, 1.2 mm** (fine-tuning), **2, 5** and **10 mm** in thickness.

ΔToe shims	ΔToe per wheel at rim
+0.2mm	+0.7mm
+1.0mm	+3.5mm

The maximum recommended thickness of toe shims is 26mm.

Toe shims:

Toe shims have a hole ready to pass through a wire seal. The idea is to prepare toe shims packages in combination with camber shims packages as well. At this point is possible apply a set up change easy and quickly and for the instance, avoid to alignment process. (do it in the pits area)



Notes:
Steering toe fine tuning can be made by turning the outer ball joint
A kit of a wide range of toe shims with different thickness and big wide quantity of pieces to easy set up the steering rod is available on the Parts Catalogue.
Is advisable to recommend preparing steering rods race spare parts with same set up, specially in endurance races to easy replace the assembly.

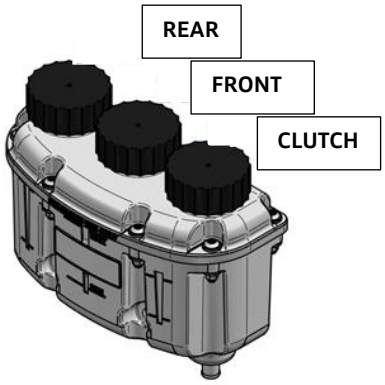
BRAKES

4.3. Brake system features

Pedal Assembly	TILTON Pedal Assembly Floor Mounts 2 Pedal / Pivot mount master cylinders. *Compatible With 900-Serie M. Cylinder for ABS use
Master Cylinder Type	Spherical-Bearing mount master cylinder
Balance Bar	Remote brake Bias adjuster wheel
Rear Brake Limiter	AP 7 Proportioning valve
Hand Brake	Aluminium lever with lock system
Brake fluid	Castrol SRF

4.4. Pedal box set up

MASTER CYLINDERS CHART *(AVAILABILITY ON PARTS CATALOGUE)			
POSITION	DIAMETER (MM)	DIAMETER (INCH)	TILTON MC TYPE
FRONT BRAKE	17,78 MM	7/10"	78 SERIES
REAR BRAKE	20,64 MM	13/16"	78 SERIES
HAND BRAKE	15,88 MM	5/8"	76 SERIES

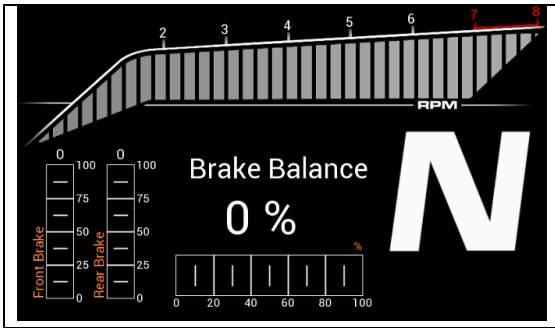


For pedal box set up and maintenance see document available on the VAG internet platform.	“Tilton installation drawing”

4.1. Brake balance adjustment

Brake Balance:

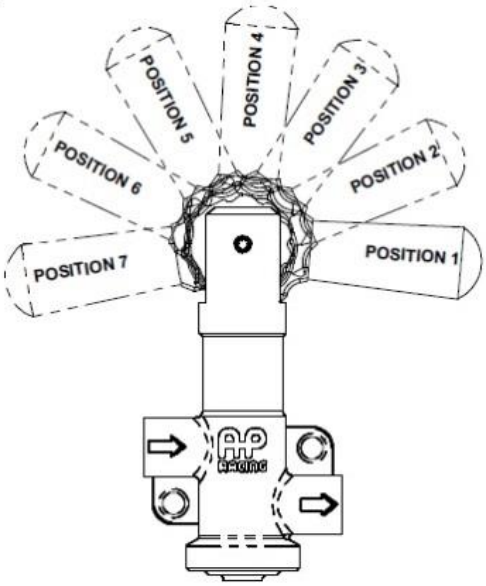
- \ Use the display “brakes” screen to see the pressure values
- \ Turn the brake adjuster wheel to move the balance
- \ Recommended percentage and values for control are:

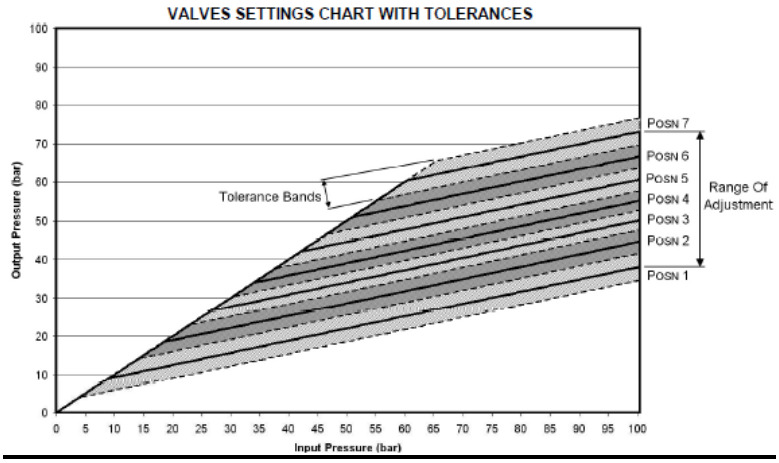


Brake pressure	Brake %
Front 15 bar Rear 11 bar (Std recommended)	60/40 (Std recommended)

Rear brake limiter: 7 proportioning valve:

Position 1: place the lever backward
Position 7: Place the lever frontward



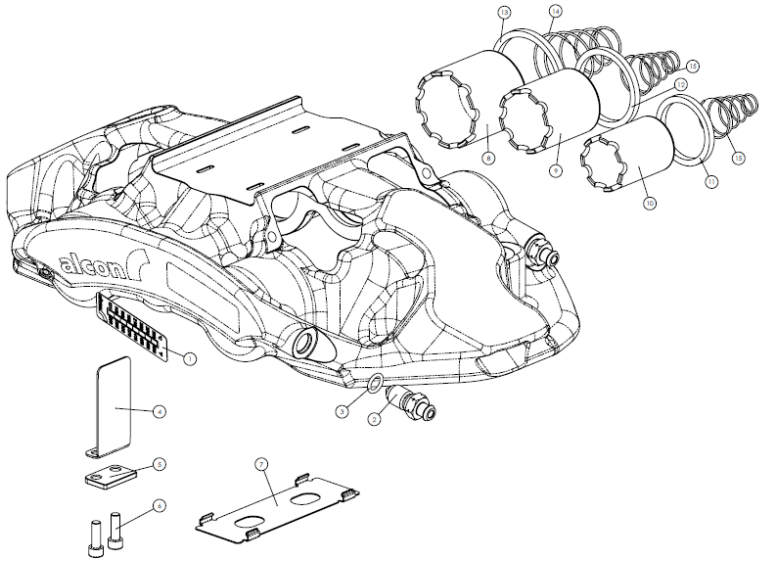


4.2. Brake callipers and discs

Calliper	Front: 6P Monoblock billet aluminium alloy Rear: 2P Monoblock billet aluminium alloy
Pistons	Front: Stainless steel / Ø27.0 /31.8 / 38.1 mm / ventilated Rear: Stainless steel / Ø34.9 mm
AKB springs	2kg anti-knock back springs front and rear caliper
Discs	Alcon front disc Ø 378 x33 mm - 68 vanes / TAB drive Rear Ø210 x 10 mm solid disc AUDI
Front Disc bell	Aluminium anodized hard (TAB drive)
Brake Pads thick	Front 25 mm / Rear 14mm
Pad shape	Front: Pad shape PAGID 1539 Rear: Pad shape PAGID 3102 // Pad shape PAGID 3109
Brake fluid (on delivery)	Castrol SRF 600

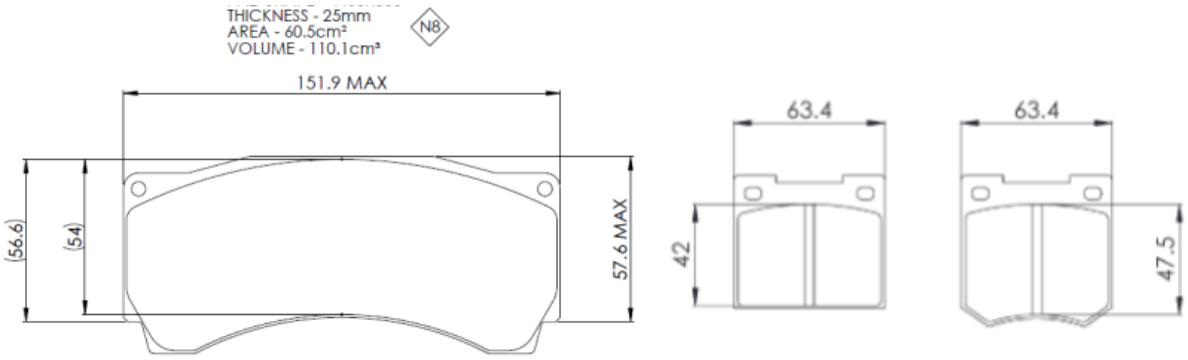
To maintain the calliper in good conditions proceed as follows:

- Check the calliper wear plate periodically and change if the wear is significant
- Change the piston seal periodically

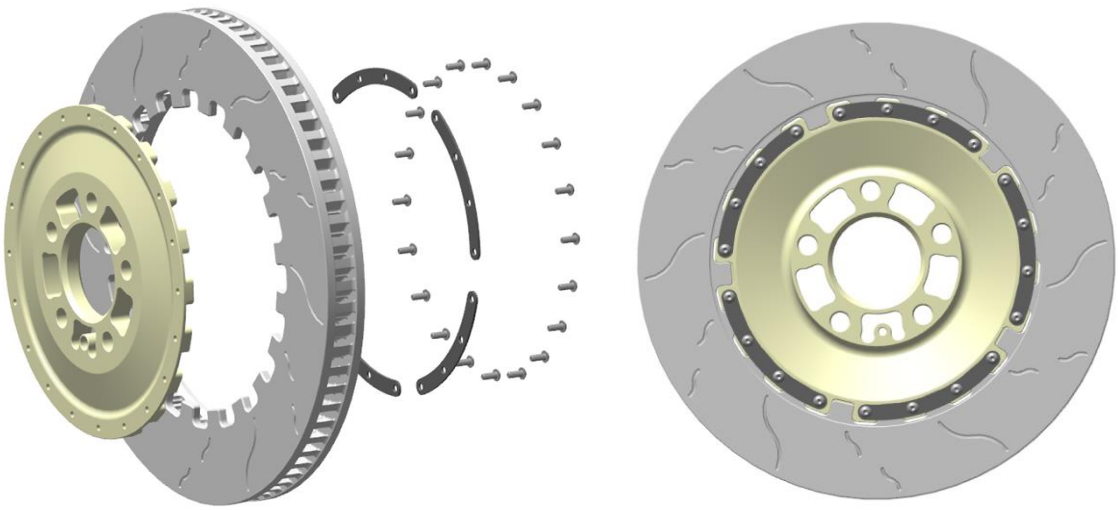


Use Alcon repair kit only. Available on the parts catalogue

Pad shape measures



Front disc:



Disc Bedding procedure (recommended)

What for?

- Transfer a layer of friction material onto disc
- Mechanically align the pad surface with the disc surface
- Boil off volatile alelements to have the unavoidable green fading in non-competitive sessions

Preparation:

- Try to use one used against one new material: e.g. Used pad against new disc
- If both parts are new, start with disc bed in → for Alcon discs and pads the procedure is the same.
- After bed in procedure on track slow in lap without applying bake.

Procedure:

- Brake in for optimum contact patch:
- 10 stops low pressure, low heat, 150 to 80 km/h
- Distance between stops 600 to 800 m

Heat up for core heat in the whole system

- 5 stops with medium to high pressures from 180 to 60 km/h
- Max acceleration in between stops
- After last stop 3 minutes cool down at 100 km/h

Recovery stops

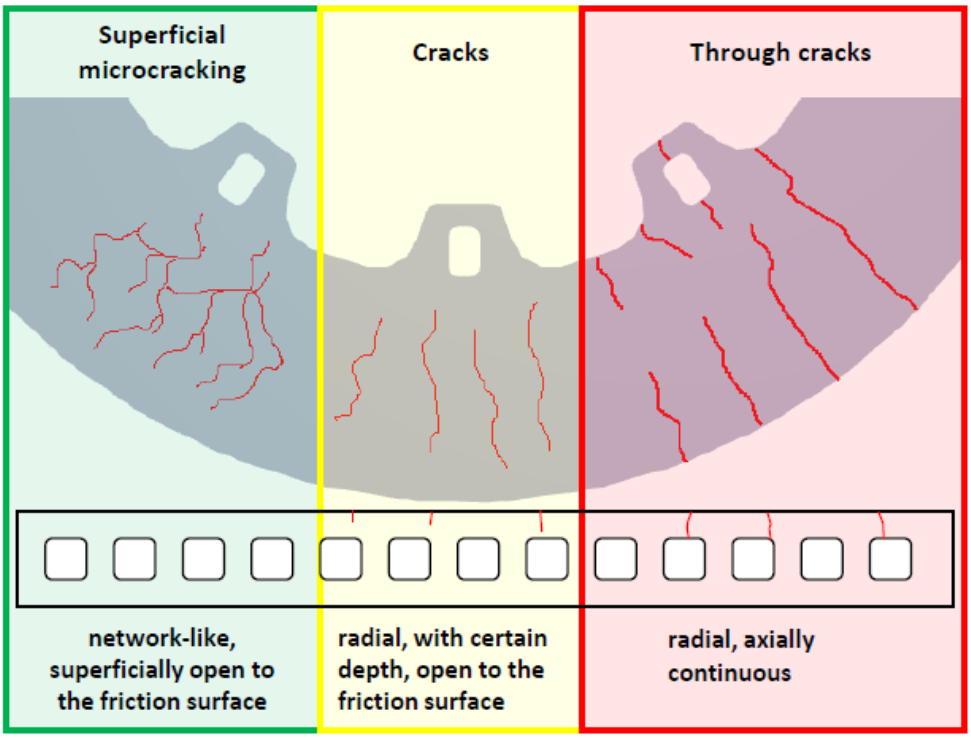
- 5 stops with medium to high pressure from 150 to 60 km/h
- Distance between 600 to 800 m

\ Cool down lap afterwards

Recommended limit for disc replacement:

Depending on the use, the discs may have more or less wear or even appears crack sooner than expected. Replace the discs when conditions are as follows:

\ As soon as a crack has reached one of the borders inner or outer diameters, independent of crack length,.
\ As soon as a grown microckack has reached a length over 50% of the D annulus value, without reaching any of the borders. D= (outer diameter -- Inner diameter)/2



4.3. Front brake cooling ducting

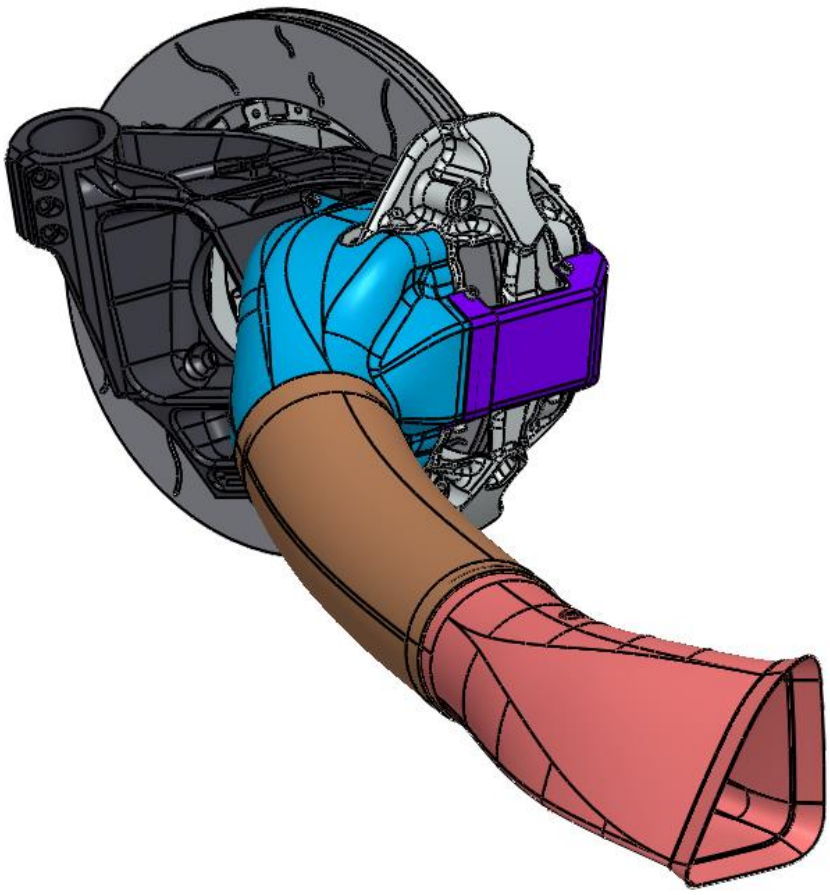
Air duct material	Fibre Carbon (specific)
Material Properties	Fire retardant and flame self-extinguishing
Inlet Diameter	112 mm

The fibre carbon brake ducting is subject to continuous movement, vibrations of the wheel on kerbs and others. Periodic monitoring is recommended.

\ Check the ducting material frequently, especially the area more closed to the disc. Change the part in case of carbon fibre is not in good conditions.

\ Check that there are no traces of tire rubber inside the ducting or disc vanes

\ Check the fixations are in good conditions



5. ELECTRIC

Following you will find briefly electrical structure information and points to consider. For more detailed information see “Electrical Manual”

5.1. Main devices and communication

DEVICE	*MANUFACTURER*	*Qty.*
ECU	MARELLI	1
Power Box	E-Race	6
Gate Way	Ecotrons	1
Key Pad	ECUMASTER	1
Display	ECUMASTER	1
Steering Wheel Module	AUDI	1

The electrical structure of the car has been designed in a modular way with a communication between them by 5 CANBus and 1 LINbus

CAN A	Logging
CAN B	Headlights
CAN C	Devices interaction drive-car
CAN F & D	Powerboxe’s control
LIN	Wiper’s control

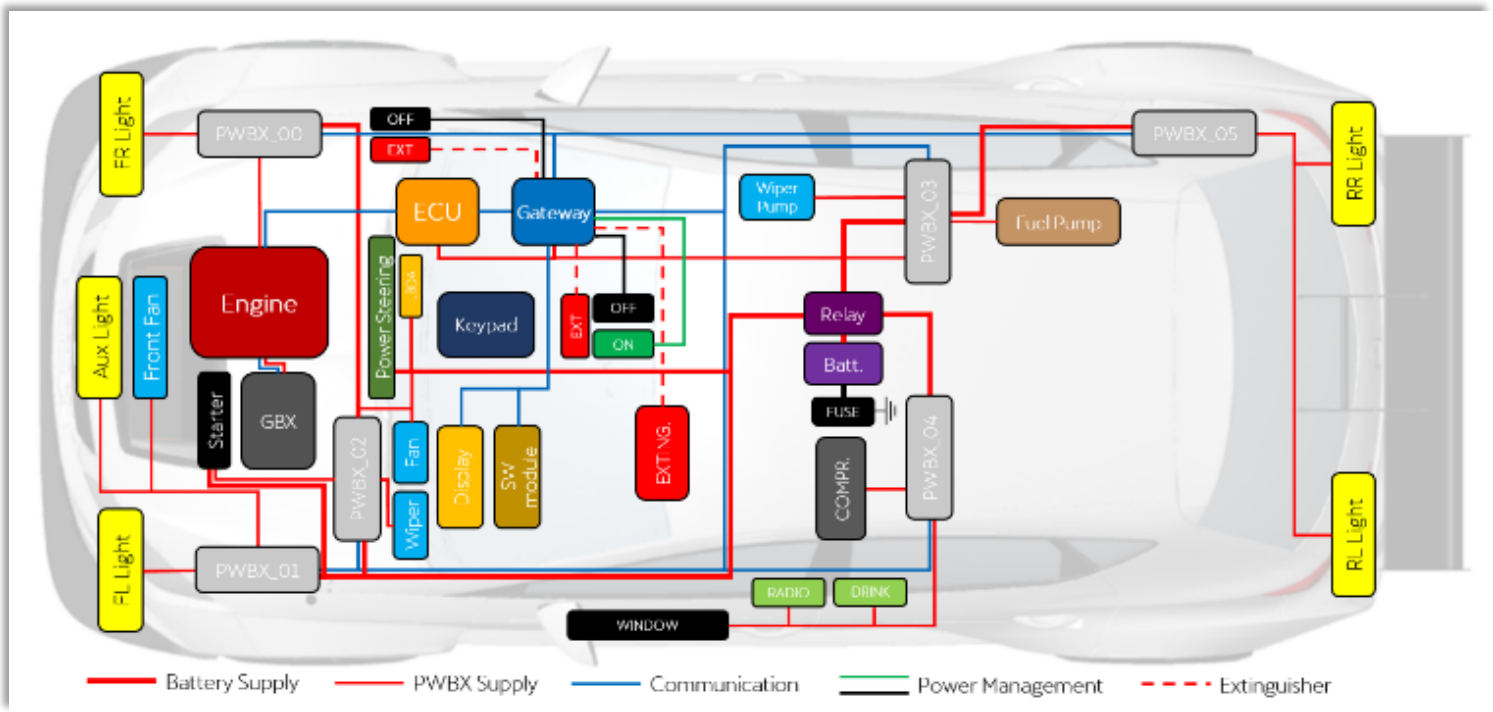
To connect the PC to the car connection socket use the following cables.

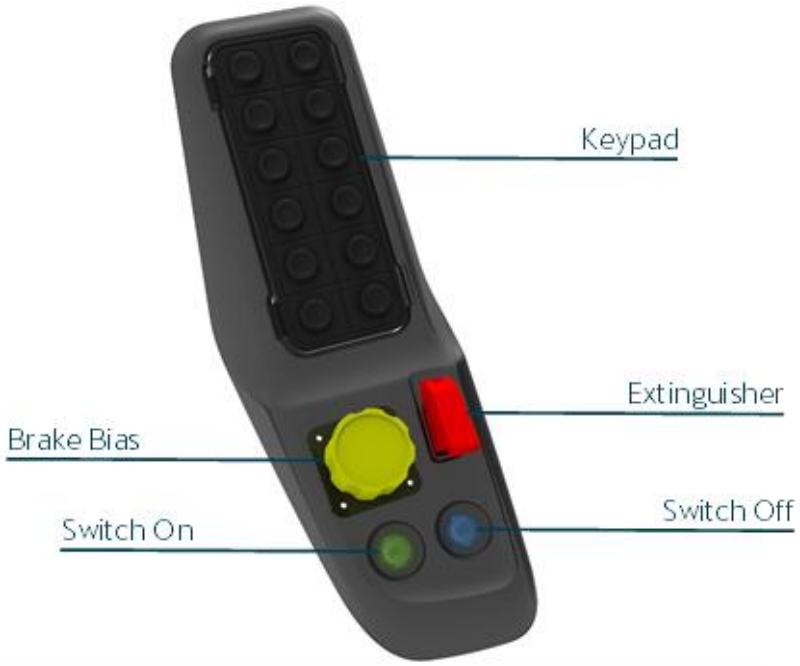
CONNETION TO	*REMARKS*	*PARTS CATALOGUE*
Data logger Acquisition	**Standard Ethernet cable**	Not supplied
Display / Others	**CAN interface set**	Available

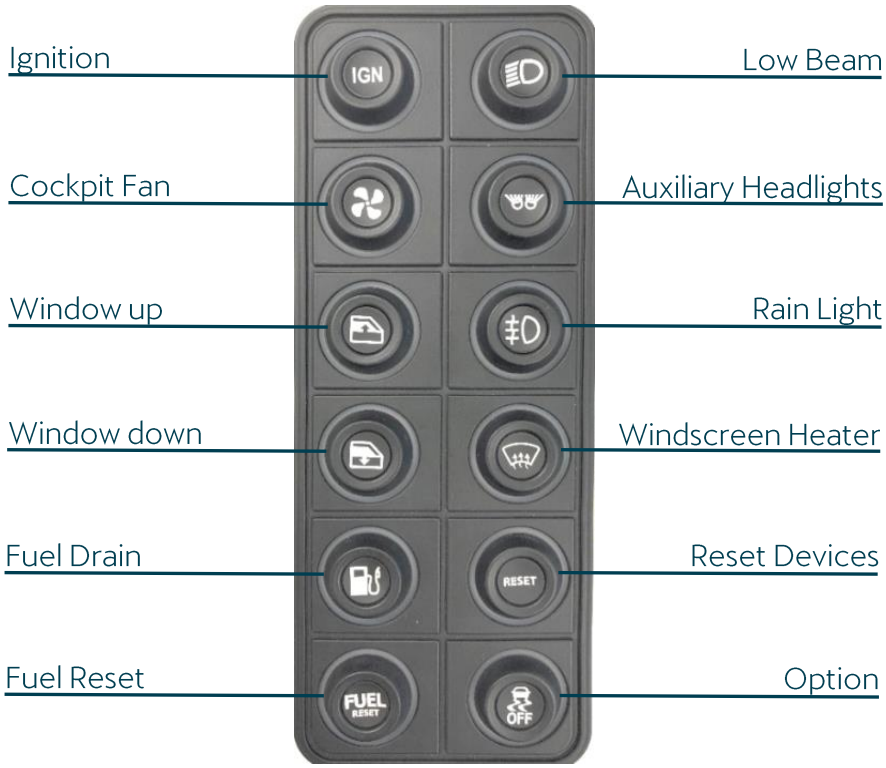
Notes:

CAN interface Set: ○ CAN case ○ USB cable ○ Interface cable	

5.2. Devices layout







Workshop principal Keypad principal functions:

FUNCTION	*REMARKS*
Switch On (KL-30)	Press the button to wake up the car Once pressed, the button do not have others functions
Switch Off	Press the button to completely kill the car

5.3. Fuel drain and reset

FUNCTION	*REMARKS*
Ignition (KL-15)	Press to activate power supply to all the devices. It is a necessary previous step before start the engine Immediately after the switch on button is pressed, Ignition will be white backlight illuminated. Then, when Ignition is pressed, its backlight will turn to red.
Fuel Drain	Press to empty the fuel tank. Automatic stop Maintain pressed to manually force the fuel pump
Fuel Reset*	Press to enter the *Fuel Management Mode*
Reset Devices	Press to reset the power supply of the malfunctioning devices. If the resulting backlight is green, means that

	all the devices are working correctly If the backlight is blinking in red means that at least one of the devices of the car is not working properly. To identify which are the devices affected go to the *Device Diagnostic Mode*

*IMPORTANT: ECU Engine Fuel Consumption it´s calculated based in the number of litres manually introduced. Use “fuel reset” to introduce the right number that corresponds to the volume added.

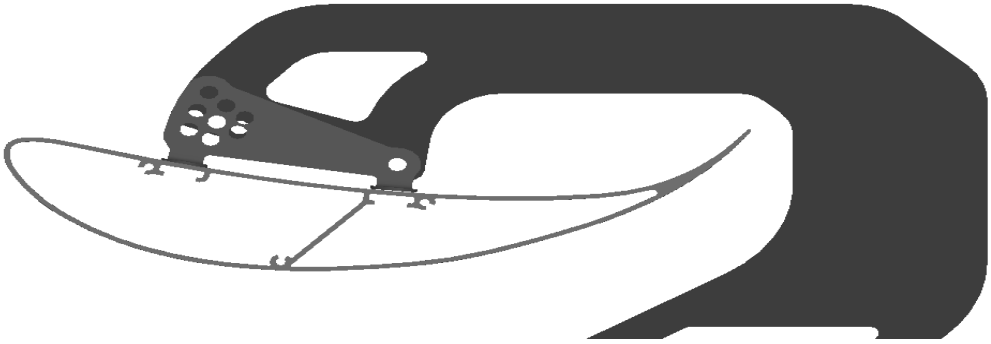
- After press Fuel Reset button, a new page will appear automatically in the display. Use the SW “level” buttons to modify the value
- Fuel Management Mode is further explained in the Electronics User Manual

6. AERO

6.1. Rear wing

Rear Wing	Aluminium / According to TCR regulations
Wing Width	1380 +0/1 mm

Use the rear wing angle to modify the downforce on the rear axle.



Wing adjustment values:

Position	Angle
A	-5º
B	-7.5º
C	-10º
D	2.5º
E	0º
F	-2.5º
G	5º
H	7.5º

IMPORTATN: Check rear wing position supports and rims are in good conditions, especially after crash incidents, wing supports could have suffered a deformation.

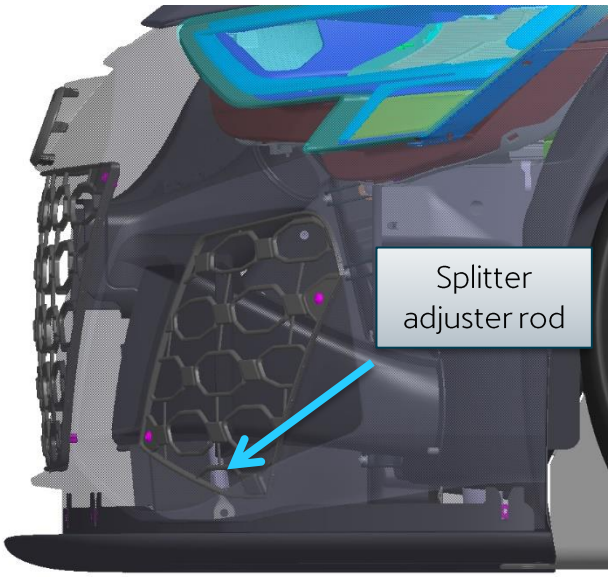
6.2. Front splitter

Front Splitter	CF / According to TCR regulations
Adjustment angle	0º to 2º

Use the front splitter adjustment to modify the downforce on the front axle.

Notes:

- The front splitter angle can be adjusted by playing with the splitter rods.
- Take in consideration the cage “pitch angle” for the right splitter set up.
- Check eventually the splitter libs are in good conditions.



7. SAFETY

PIECE	*REMARKS*	*CADUCITY*
BUCKET	PS3 AUDI	10 year
Homologation	FIA Standard 8862-2009	
Size	XL	
HARNESS	SABELT 6P HANS /CFCI AUDI	5 year
Homologation	FIA 8853/16	
WINDOW NET	SABELT	5 year
FIRE EXTINGUISEHR	Lifeline - ZERO 275	5 year (+2 w. certificate)
Homologation	FIA 8865:2015	
Weight	2650 g ± 250 g	
FUEL TANK	PREMIER	5 year (+2 w. certificate)
Homologation	FIA FT3	

IMPORTANT: To renew the homologation certificates, customer has to contact directly to each supplier dealers.

***Codriver seat allocation not permitted for racing !**

8. MILEAGE MAINTENANCE

The following maintenance chards are only estimation. Keep in mind the type of track championship and use you apply to the car to guide maintenance properly.

The mileage chard has been considered as follows:

Sprint event ≤ 300 km **Sprint season ≤ 2400 km**

Endurance event ≤ 3000 km **Endurance season ≤ 12000 km**

The mileage recommendations are not strict. Adapt them to your type of championship and use. In case of doubt AUDI RACING recommends act in prevention and shorten the recommended mileage.

ENGINE	Sprint race service	Sprint race change (km)	Endurance service (km)	Endurance change (km)	Remarks
Engine	--	6.000		12.000	Check calibration procedure in the Electric User Manual.
Turbo	--	6.000		12.000	Check calibration procedure in the Electric User Manual.
Spark plugs		2.000		4.000	
Engine oil	Inspect x event	600		4.000	
Oil filter	Inspect x event	600		4.000	
Air filter	once per event	1.000		4.000	
Poly-V belt	Inspect x event	2.000		4.000	Change in case of cuts or incrusted stones, especially if car had a runaway exit.

Engine care:

The engine revision it is not contemplated. (sealed)

Conditions why it is recommended the substitution of the engine in the following chart:

Mileage	Sprint race use ≥ 6.000 km Endurance race use ≥ 12.000 km
Engine Water Overheating	≥ 120º C
Oil pressure in idle	< 1.2 bar
Oil pressure in engine load	< 2.5 bar
Cylinder leakage	Up to 20% (warm conditions)

IMPORTANT: An electronic calibrations process is needed in case of engine substitution or some electronic pieces. See the car electrical manual. (Turbo. Engine throttle, Foot throttle)

TRANSMISSION	Sprint race service	Sprint race change (km)	Endurance service (km)	Endurance change (km)	Remarks
Gearbox	2.000		once per event		Gear cassette Inspection after two spring events recommended
Gbx oil		700		once per event	
Gbx filter	once per event		once per event		
Differential ramps/spider	1000	2000	once per event	4000	Inspect friction surfaces
Drive shaft		3.500		8.000	
Shift valves	2.400		once per event		

Compressor filter	1.000	once per event	Clean
Accumulator filter	1.000	once per event	Drain water condensed
Shift pot drain	700	once per event	
Flywheel	2000	Once per event endurance	Depends on the number of launching processes done
Clutch wear	1.000	Once per event endurance	Depends on the number of launching processes done

FUEL TANK	Sprint race service	Sprint race change (km)	Endurance service (km)	Endurance change (km)	
Flow filter	once per season		once per event		Advisable to inspect and clean after 800 km from the car debut
Low filter	once per season	700	once per season		
Fuel tank*	once per season		once per season		

***Is recommended replace the fuel filters (inside fuel tank) and clean the bottom of the tank once per season.

***When fuel tank are new (new cars) is recommended to clean the pre-filter of the flow pump at 500km.

SUSPENSION	Sprint race service/inspect	Sprint race change (km)	Endurance service (km)	Endurance change (km)	Remarks
Front subframe	Once per event	5.000		5.000	Inspect wishbone link point, no cracks presents
Front Upright	Once per event	12.000		12.000	
Front wishbone	Once per event	6.000		12.000	
Steering rods	Once per event			12.000	
Steering rack	Once per event	12.000		12.000	Warning!!! Seal the electric connector

					socket when cleaning with Karcher.
Wheel bearing	Once per event	once per season	Once per event	9.000	
Front wishbone pivot ball join	Once per event	3.000		8.000	
Rear subframe	Once per event			12.000	
Longitudinal beam	One per event			12.000	
Rear longitudinal beam	One per event			12.0000	Inspect there is not bent after crashes
Rear lateral beam	One per event			12.000	
Rear camber beam	One per event	3.500		8.000	Inspect there is not bent after crashes
Toe rod rear	One per event				
Dampers (Bilstein)	One per event	once per season		12.000	
Brake discs	Once per event	1.000		2.500	** depends on the use / pads
Wheel nuts		once per season		once per season	

8.1. Fluids

FLUIDS	Type	Volume	Sprint race (km)	Endurance (km)	Remarks
Engine oil	Castrol Edge 5W-30 LL 507	4.7 lts.	600	3000	
Engine coolant	G-13 VAG	8 lts.			Customer care
Gearbox oil	ELF HTX 755 / 80W-140	2.5 lts.			With cooler
CV joint grease	GKN - HT1LF	250 g.			Customer care
Tripod grease	GKN -GKY H-15	150 g.			Customer care
Brake fluid	Castrol SRF		300	3000	

Clutch fluid	Castrol SRF	300	3000