

Make: **SEAT Sport**

Model: **SEAT Leon Cup Racer V2 / DSG**

TECHNICAL FORM TCN2

Certification valid as from:

08 APRIL 2016

**Homologation form only valid for cars in
Compliance with the SAFETY CAGE
CERTIFICATE HES4441013**

1. GENERAL

101. MANUFACTURER

SEAT

102. MODEL AND TYPE

a) Model and type

LEON

b) Typical chassis number

VSSMK35F4XSSPXXX

X = VARIABLE DIGITS

103. CYLINDER CAPACITY

Cylinder capacity

1984

cm³

Corrected cylinder capacity

1984

X 1.7

=

3372.8

cm³

A1) Race Car seen from 3/4 front



A2) Race Car seen from 3/4 rear



Indicate Master Switch's & Air Jack connector's position

A3) Race Car seen from 3/4 front and below



A4) Race Car seen from 3/4 rear and below



Show air inlets for engine & brake, front & rear towing eyes

2. DIMENSIONS, WEIGHT

202. OVERALL LENGTH

a) Overall:	4547	± 10 mm
b) at bumpers:	4357	± 10 mm

203. OVERALL WIDTH

1950 mm	-1%
Measurement point:	Front axle centreline

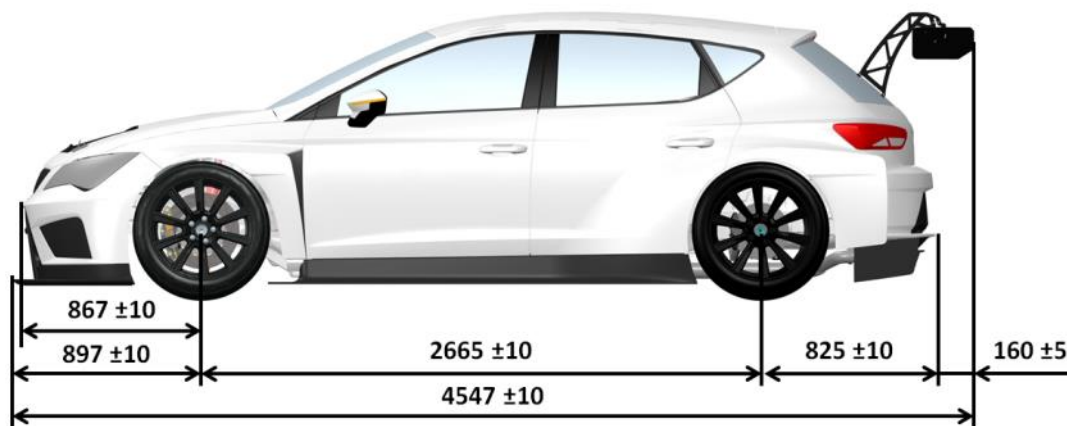
204. WIDTH OF BODYWORK

a) At front axle centreline	1950	mm	-1%
b) At rear axle centreline	1935	mm	-1%

206. WHEELBASE

2665	± 10 mm
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II-C1) POSITION DES AXES D'ESSIEUX / POSITION OF AXLE CENTRELINES



209. OVERHANG

a) Front	897	± 10 mm
Front at bumper	867	± 10 mm
b) Rear	985	± 10 mm
Rear at bumper	825	± 10 mm

210. MINIMUM WEIGHT

1180	kg
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3. ENGINE

Model and origin of the engine: **EA888**

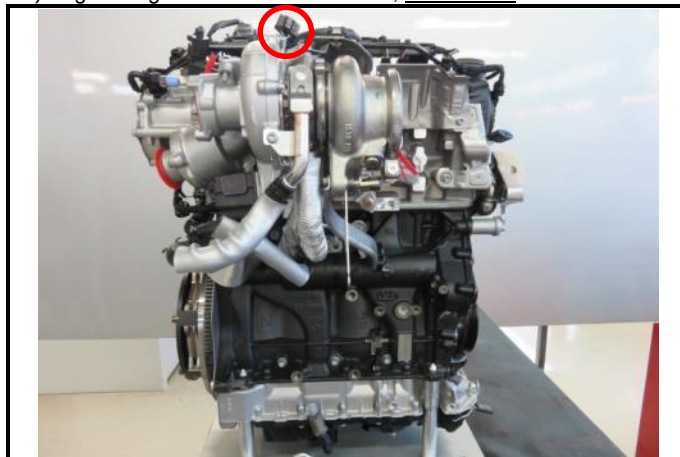
Identification: **CJX-**

Original car: **SEAT LEON CUPRA**

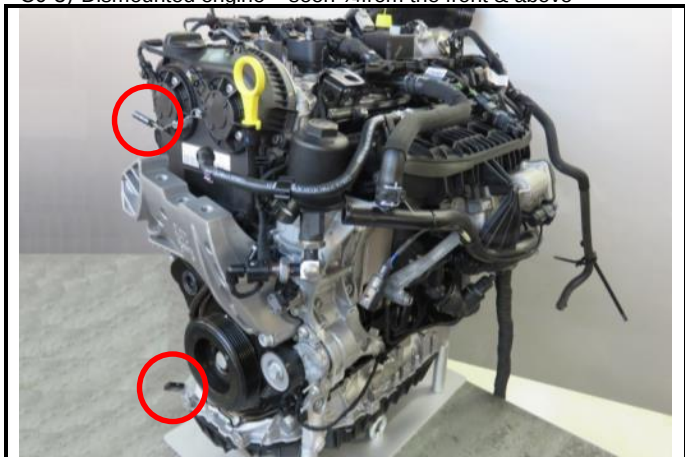
C0-1) Engine's left hand side or front view, dismounted



C0-2) Engine's right hand side or rear view, dismounted



C0-3) Dismounted engine – seen $\frac{3}{4}$ from the front & above



C0-4) Dismounted engine – seen from $\frac{3}{4}$ the rear & below



C0-5) Engine in location seen from above



C0-6) Engine in location seen from below

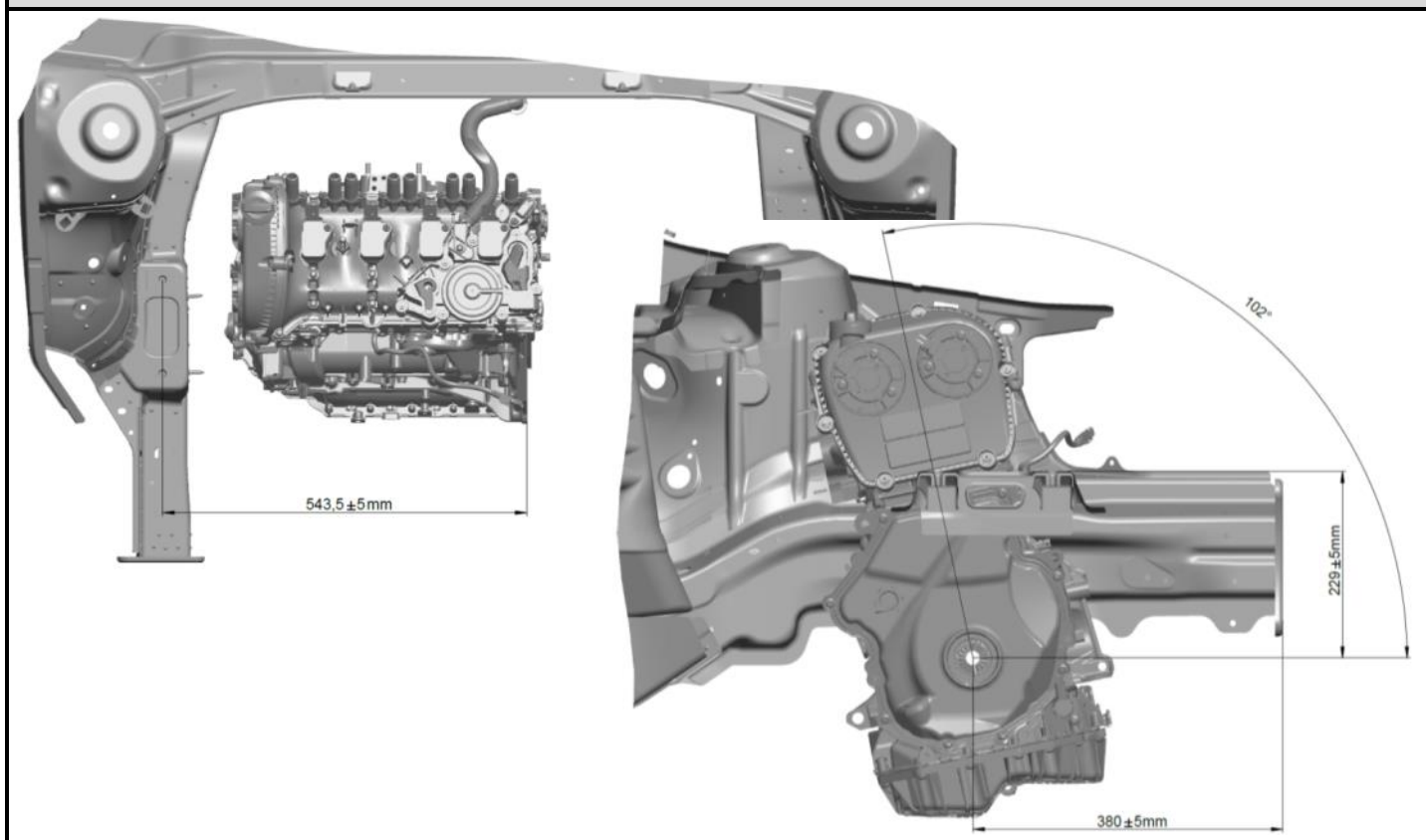


301. LOCATION AND POSITION OF THE ENGINE

b) Position	X =	380	± 5 mm
	Y =	343.5	± 5 mm
	Z =	229	± 3 mm
c) Inclination		102	- 2°
d) Minimum weight of the engine:		142	±0.5kg

See scheme **III-A1)**

III-A1) POSITION OF THE ENGINE



C1-1) Reference point



C1-2) Engine serial number



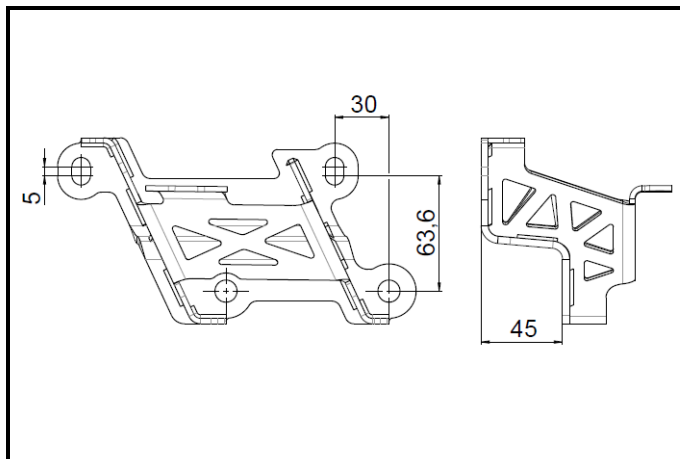
302. ENGINE SUPPORTS

Number: **3**

C2-1) Engine support **1** dismounted (photo)
Material: **Steel**



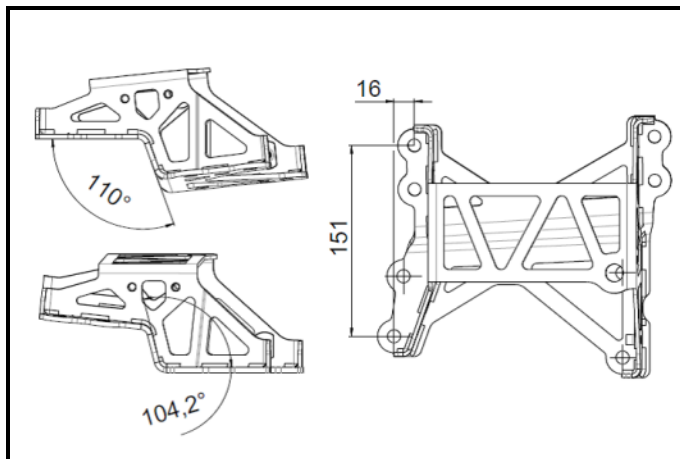
III-B1) Engine support **1** (Drawing)



C2-2) Engine support **2** dismounted (photo)
Material: **Steel**



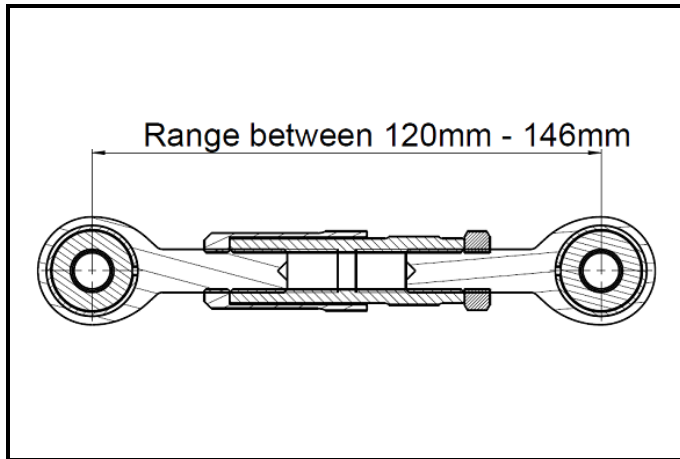
III-B2) Engine support **2** (Drawing)



C2-3) Engine support **3** dismounted (photo)
Material: **Steel & Aluminium**



III-B3) Engine support **3** (Drawing)



304. SUPERCHARGING

Type and number of compressors **1 – Turbo charger**

307. CYLINDER CAPACITY

a) Unitary	496.1	cm ³
b) Total	1984.3	cm ³
c) Maximum total allowed	1984.5	cm ³

310. COMPRESSION RATIO (IN RELATION WITH THE UNIT)

Maximum: **9.3** : 1

314. BORE

82.5 mm +0
- 0.1 mm

316. STROKE

92.8 mm +0
- 0.1 mm

311. CYLINDER BLOCK

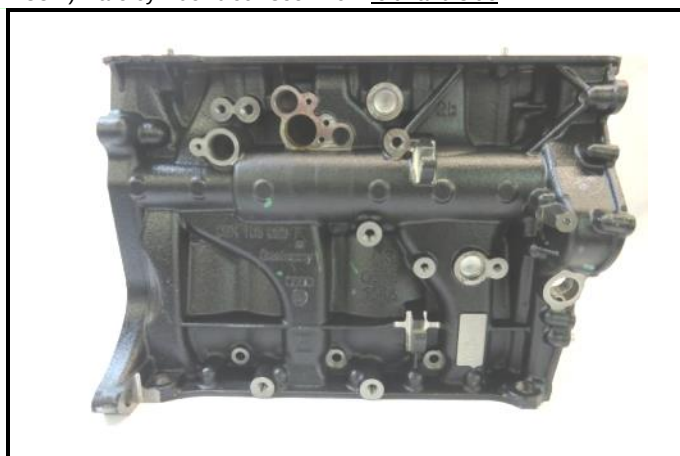
a) Material	Steel	
c) Minimum weight	34100	g Without crankshaft bearings caps, with fixing studs (bearing caps, cylinder head and oil sump)

C3-1) Bare cylinder block seen from above



C3-2) Bare cylinder block seen from underneath


C3-3) Bare cylinder block seen from right hand side

C3-4) Bare cylinder block seen from left hand side


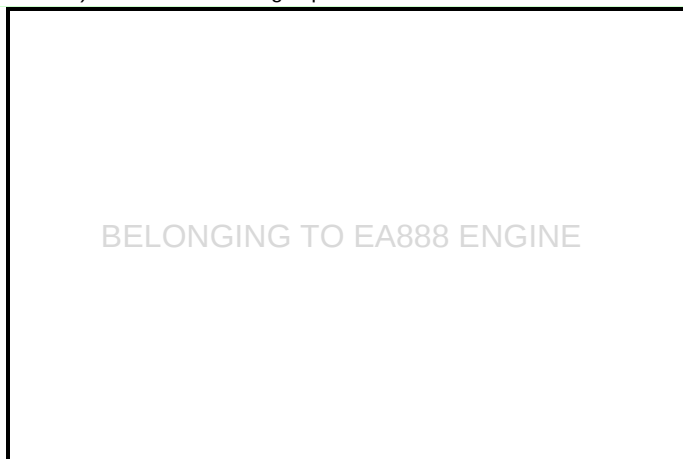
C3-5) Bare cylinder block seen from timing side

C3-6) Bare cylinder block seen from flywheel side


C3-7) Crankshaft bearing caps



C3-7b) Crankshaft bearing caps



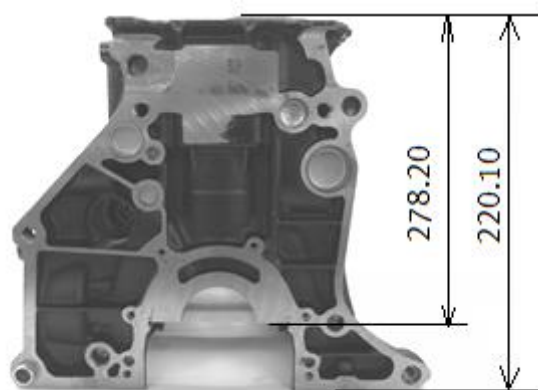
BELONGING TO EA888 ENGINE

312. MIN. HEIGHT OF THE CYLINDER BLOCK

a) Between sump and head gasket planes **278.20** mm

b) Between crankshaft centreline and head gasket plane **220.10** mm

III-C1) Height measurement



313. SLEEVES

a) Sleeved cylinder block

Yes

☐

No

☒

C3-8) Sleeve dismounted

b) Material

c) Type:

BELONGING TO EA888 ENGINE

317. PISTON

a) Material

ALUMINIUM

b) Number of rings

3

b1) Thickness of rings

5.18 / 5.18 / 2.02

+ 0.1
-0.05 mm

c) Minimum weight

415

g

With pin, bearing, clips and rings

d1) Minimum compression height

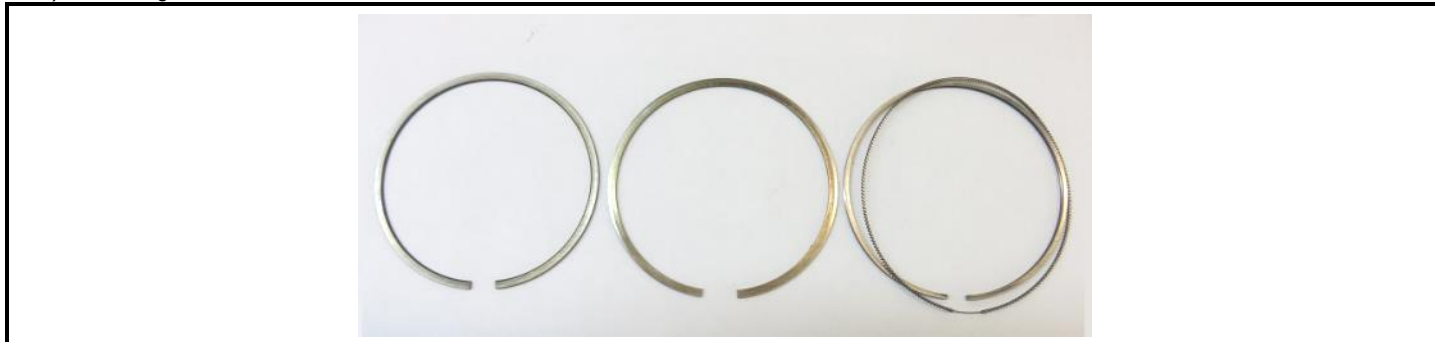
29.6

mm

C4-1) Piston from $\frac{3}{4}$ top

C4-2) Piston from $\frac{3}{4}$ bottom

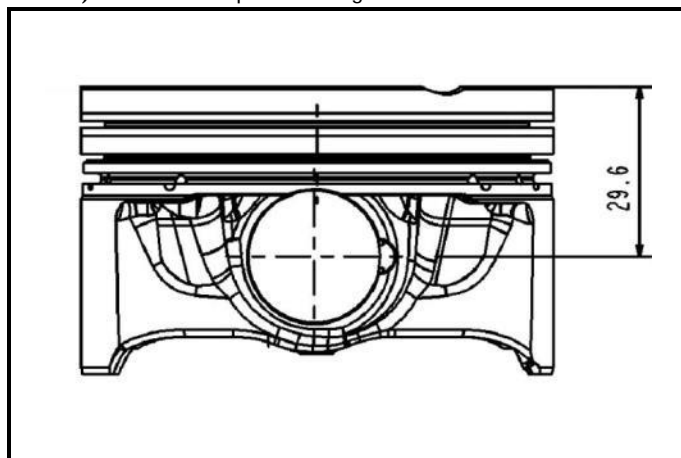

C4-1) Piston rings



III-D1) Piston pin



III-D2) Minimum compression height



318. CONNECTING ROD

- a) Material **Cast Iron**
c) Interior diameter of the big end (without shell bearings)
d) Length between axes **144** ± 0.1 mm

- b) Big end type **50,6** $+0.1$ mm
e) Minimum weight **565** g

C5-1) Connecting rod from $\frac{3}{4}$ on big end side

C5-2) Connecting rod from $\frac{3}{4}$ rear on small end side


319. CRANKSHAFT

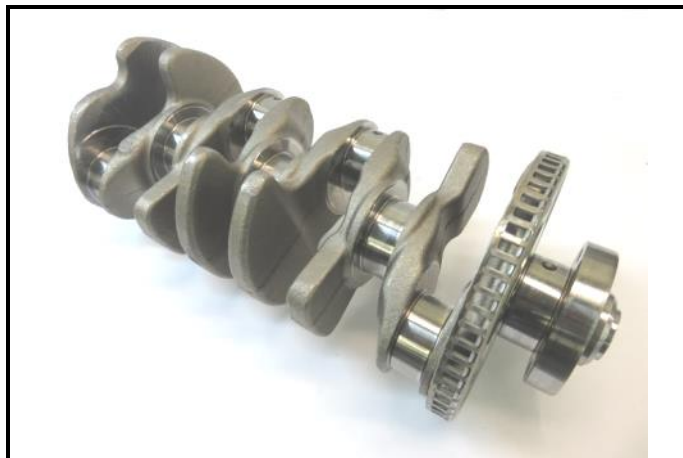
- a) Type of manufacture **ONE PIECE**
c) Manufacturing process: **Cast**
f) Diameter of bearings **48**
g) Bearing caps material **Steel**
h) Minimum weight of bare crankshaft **12242**
i) Maximum diameter of crank pins **47.8**
j) Bearings: Width: **15.33**

- b) Material **Cast Iron**
-0.1 mm
mm
mm

C6-1) Crankshaft from ¾ front



C6-2) Crankshaft from ¾ rear



C6-3) Alternative crankshaft bearings



320. FLYWHEEL

b) Weight	11380 g	± 500g
c) External diameter of the starter ring	281.6	± 3 mm
d) Number of teeth of the starter ring	129	
e) Thickness of the starter ring	13 mm	

C7-1) Flywheel from ¾ front



C7-2) Flywheel from ¾ rear



321. CYLINDERHEAD

b) Material	Aluminium
c) Minimum height with and without gasket	140,5 / 139,5 ...mm ±0.1mm / ...mm ±0.1mm
d) Where measured	Between head gasket and cylinder head cover planes (C8-8)
e) Angle between intake valve and cylinder head gasket plane	72 deg±1°
f) Angle between exhaust valve and cylinder head gasket plane	68.5 deg±1°
g) Minimum volume of a combustion chamber	cm3
h) Minimum weight	14492,5 g

With intake and exhaust valves with springs.

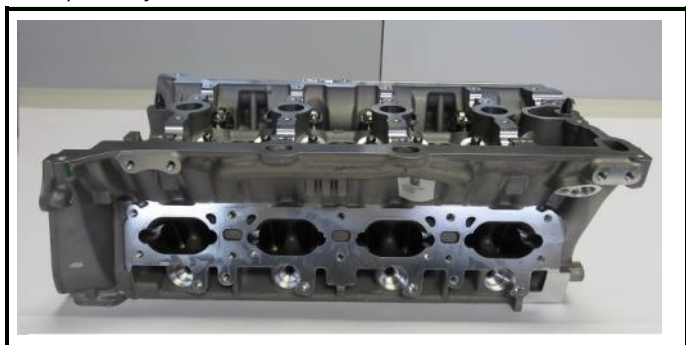
C8-1) Bare cylinder head seen from top (camshaft side)



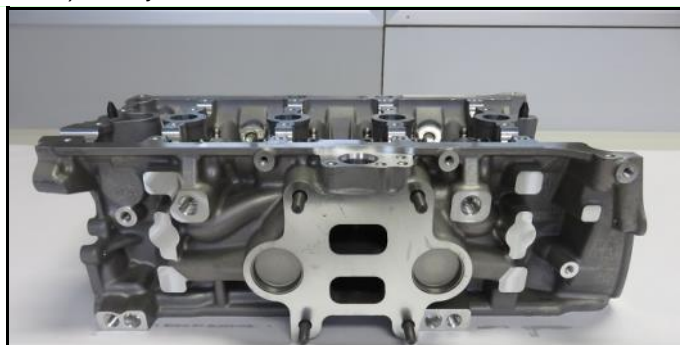
C8-2) Bare cylinder head seen from underneath (chamber side)



C8-3) Bare cylinder head seen from intake side



C8-4) Bare cylinder head seen from exhaust side



C8-5) Bare cylinder head seen from timing side



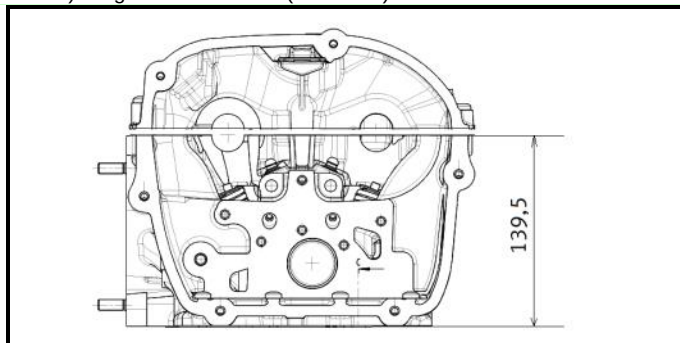
C8-6) Bare cylinder head seen from flywheel side



C8-7) Combustion chamber



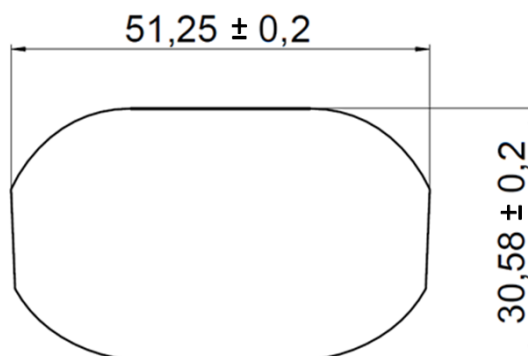
C8-8) Height measurement (321. view)



INTAKE

Drawings of cylinder head ports - tolerances on dimensions

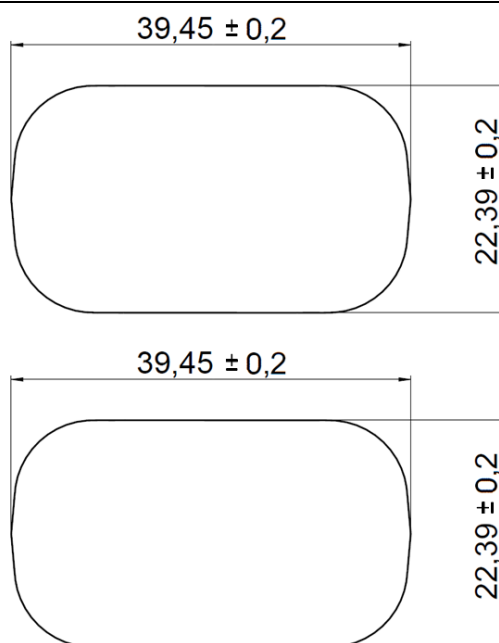
III-K1) Cylinder head, manifold side



EXHAUST

Drawings of cylinder head ports - tolerances on dimensions

III-L1) Cylinder head, manifold side



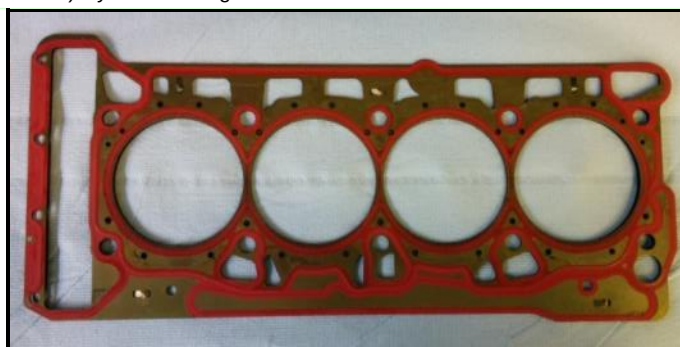
322. CYLINDERHEAD GASKET

- a) Thickness of new cylinder head gasket **0.9 mm** ± 0.1 mm
- Thickness of tightened cylinder head gasket ± 0.1 mm

C8-8) Cylinder head gasket from above



C8-9) Cylinder head gasket from below



324. FUEL FEED BY INJECTION - ELECTRONICS

a) Make and type	CONTINENTAL		
b) ECU Model	SIMOS 18.1	b1) Software Performance Level 100%: 5F6906259B	b2) Check number: 0001
		b3) Software Performance Level 95%: 5F6906259B	b4) Check number: -05%
		b5) Software Performance Level 90%: 5F6906259B	b6) Check number: -10%
		b7) Codification: 0B 1D 00 12 24 14 00 08 00 00	Method: OBDII
No of installed speed limiter:	1	Speeds: 60	
f) Intake manifold injectors	f1) OEM Origin: VW Group	f2) Identification: BOSCH	
Comb. chamber injectors	f3) OEM Origin: VW Group	f4) Identification: BOSCH	
g) List of engine control system sensors			
<u>C1</u>	THROTTLE PEDAL POSITION	<u>C15</u>	
<u>C2</u>	KNOCKING SENSOR	<u>C16</u>	
<u>C3</u>	FUEL PRESSURE (LP)	<u>C17</u>	
<u>C4</u>	HALL SENSOR (2)	<u>C18</u>	
<u>C5</u>	WATER TEMPERATURE	<u>C19</u>	
<u>C6</u>	WATER TEMPERATURE (AFTER RADIATOR)	<u>C20</u>	
<u>C7</u>	ENGINE SPEED	<u>C21</u>	
<u>C8</u>	ENGINE OIL LEVEL AND TEMP	<u>C22</u>	
<u>C9</u>	INTAKE MANIFOLD FLAPS POTENTIOMETER	<u>C23</u>	
<u>C10</u>	INTAKE MANIFOLD AIR PRESSURE AND TEMP	<u>C24</u>	
<u>C11</u>	FUEL PRESSURE (HP)	<u>C25</u>	
<u>C12</u>	BOOST PRESSURE	<u>C26</u>	
<u>C13</u>	LAMBDA PROBE	<u>C27</u>	
<u>C14</u>	OIL ENGINE PRESSURE (3)	<u>C28</u>	
h) List of engine control system actuators			
<u>A1</u>	ELECTRIC THROTTLE	<u>A9</u>	OIL PRESSURE REGULATION VALVE
<u>A2</u>	COILS (4)	<u>A10</u>	WASTE GATE
<u>A3</u>	SPARK PLUGS (4)	<u>A11</u>	COOLING PISTON VALVE
<u>A4</u>	COMBUSTION CHAMBER INJECTORS (4)	<u>A12</u>	CAM ADJUSTMENT ACTUATOR (8)
<u>A5</u>	INTAKE MANIFOLD INJECTORS (4)	<u>A13</u>	INTAKE MANIFOLD THROTTLE VALVE
<u>A6</u>	GEARBOX COOLING VALVE	<u>A14</u>	FUEL PUMP
<u>A7</u>	TURBO CHARGER BYPASS VALVE	<u>A15</u>	ENGINE WARMING VALVE
<u>A8</u>	VARIABLE DISTRIBUTION VALVES (2)	<u>A16</u>	ADDITIONAL WATER PUMP

C9-1) Engine control system sensors

			
C1	C2	C3	C4
			
C5	C6	C7	C8
			
C9	C10	C11	C12
		N/A	N/A
C13	C14	C15	C16
N/A	N/A	N/A	N/A
C17	C18	C19	C20
N/A	N/A	N/A	N/A
C21	C22	C23	C24
N/A	N/A	N/A	N/A
C25	C26	C27	C28

C9-1) Engine control system actuators





REAL FEDERACIÓN ESPAÑOLA DE AUTOMOVILISMO

Certification N°

TCN2 – C – 002

Make: **SEAT Sport**

Model: **SEAT Leon Cup Racer V2 / DSG**



REAL FEDERACIÓN ESPAÑOLA
DE AUTOMOVILISMO Extension N°
Departamento Técnico
Technical Department

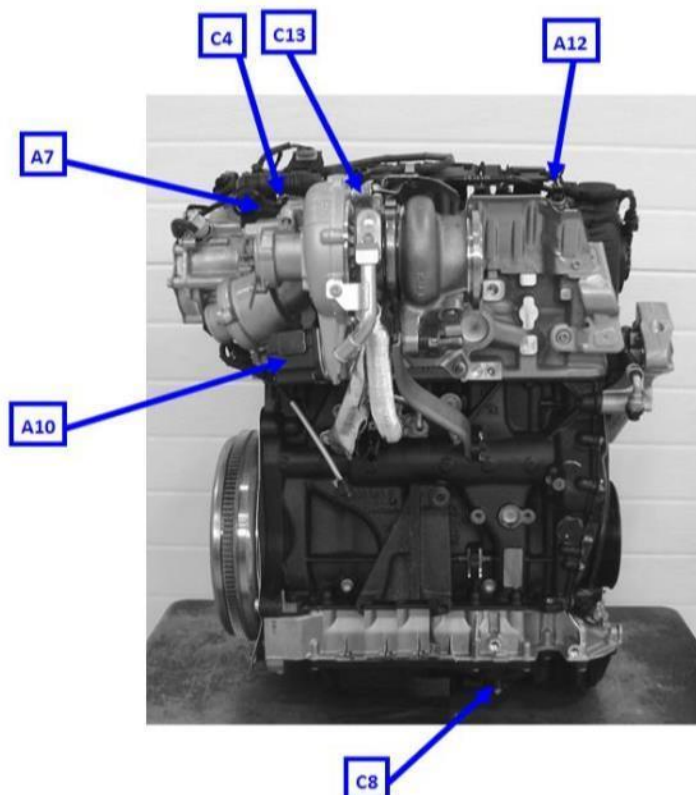
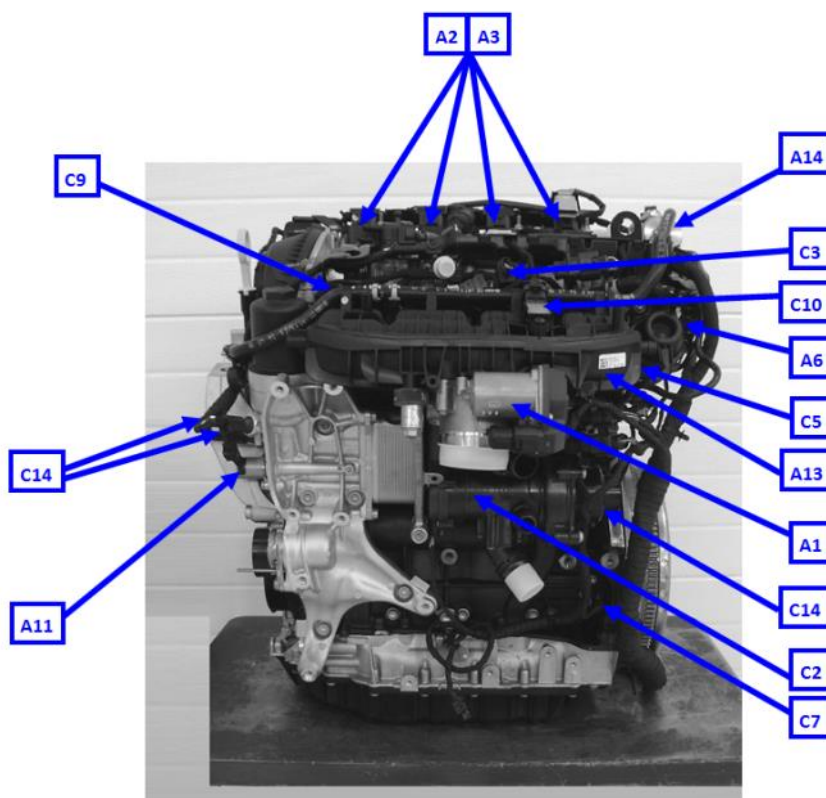
N/A

INJECTOR DRIVER

N/A

HP FUEL PUMP DRIVER

III-I1) LOCATION OF SENSORS AND ACTUATORS



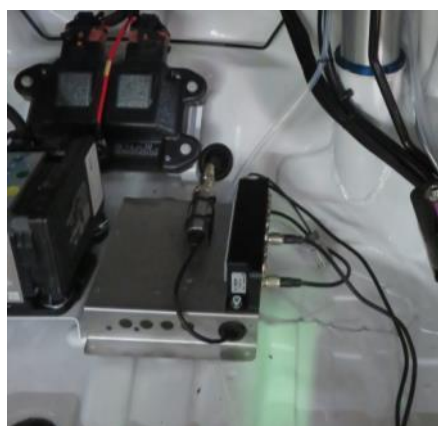
SCRUTINEERING DATA LOGGING SYSTEM

i) List of FIA data logging system sensors (if different from Art. 324)

- DL0** Boost pressure
- DL1** Engine speed
- DL2** Front wheel speed
- DL3** Rear wheel speed
- DL4** Lambda Sensor
- DL5** Throttle pedal position
- DL6** Engine Water Temperature
- DL7** Front Brake Calliper pressure
- DL8** Lap trigger
- DL9** GPS

LOOM

C9-2) Scrutineering data logging system



DATA LOGGING UNIT IN LOCATION



BOOST PRESSURE SENSOR IN LOCATION



LAMBDA SENSOR IN LOCATION



1. Data logger AIM EVO 4
2. GPS antenna
3. IR - receiver
4. Connection cable CAN
5. Extension cable Memory Key
6. Connection cable 12V
7. Boost/Manifold pressure sensor
8. Holder

WIRE LOOM DISMOUNTED

ENGINE SPEED SENSOR IN LOCATION



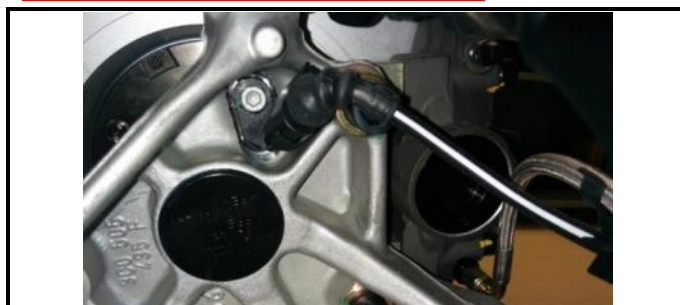
WHEEL SPEED CONTROL UNIT IN LOCATION



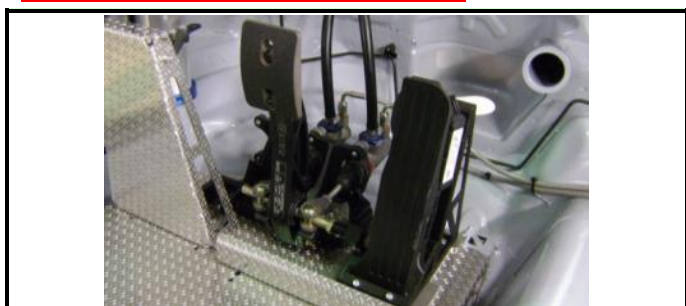
FRONT WHEEL SPEED SENSOR IN LOCATION



REAR WHEEL SPEED SENSOR IN LOCATION



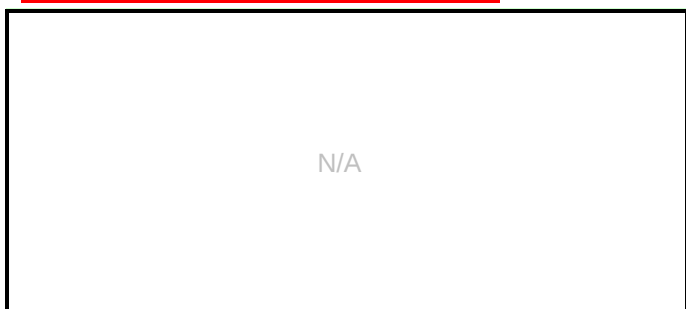
THROTTLE PEDAL POSITION IN LOCATION



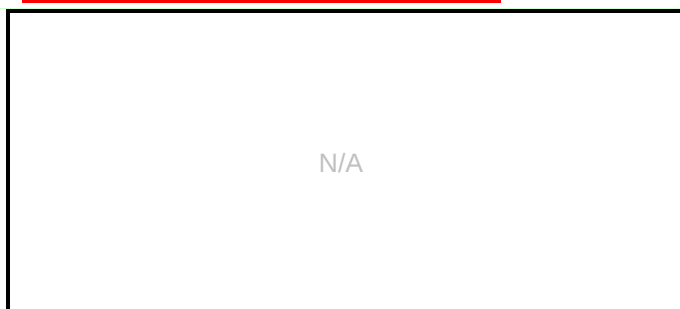
ENGINE WATER TEMPERATURE IN LOCATION



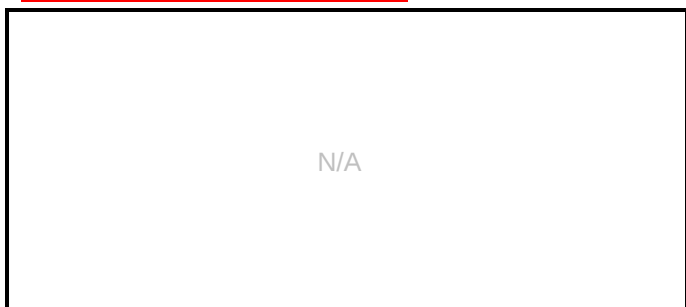
ENGINE WATER TEMPERATURE IN LOCATION



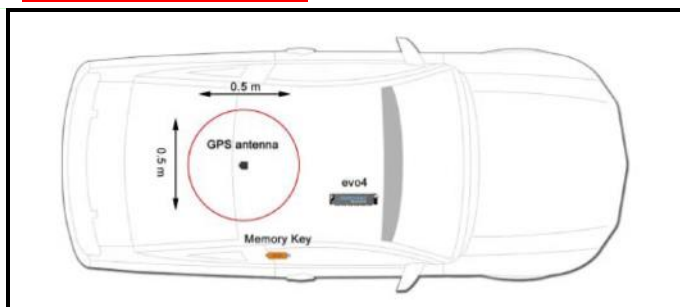
ENGINE WATER TEMPERATURE IN LOCATION



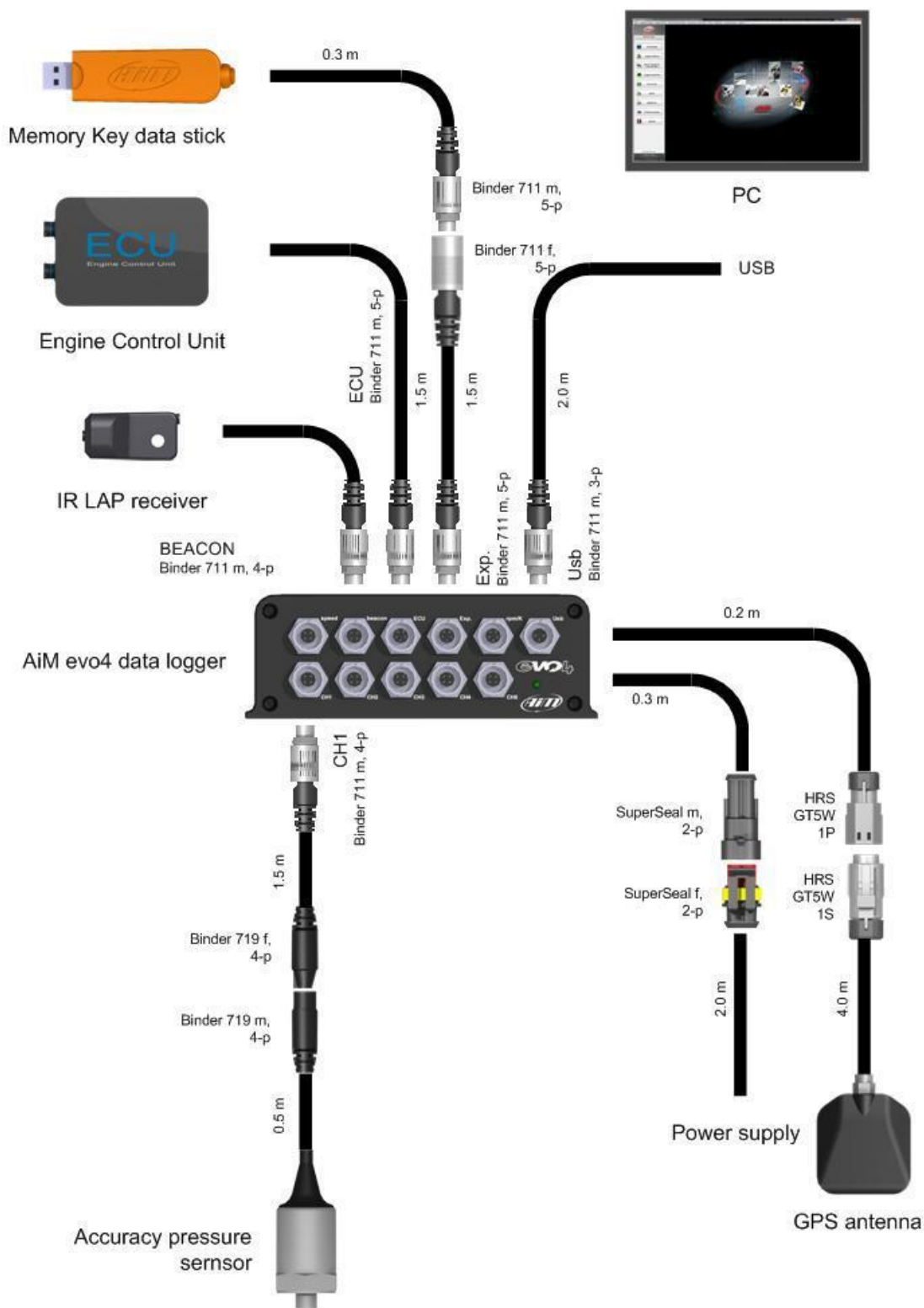
LAP TRIGGER SENSOR IN LOCATION



GPS SENSOR IN LOCATION



III-I2) SCRUTINEERING DATA LOGGING SYSTEM; WIRE LOOM DRAWING

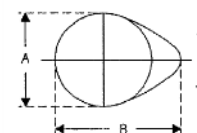


325. CAMSHAFT

- c) Drive system
- e) Diameter of bearings
- g) Cam dimensions

CHAIN
24 ± 0.1 mm

	Intake	Exhaust
A =	32 ± 0.1 mm	32 ± 0.1 mm
B =	38.38 ± 0.1 mm	37.7 / 35.6 ± 0.1 mm



The tolerances must be used with the same sign for A and B

- h) Minimum weight(s) Intake: **1.60** kg Exhaust: **2.97** kg

326. TIMING

- a) Theoretical clearance Intake mm Exhaust mm
- b) Cam lift in mm (dismounted camshaft)

INTAKE				EXHAUST			
Rotation angle in degrees	Lift in mm (± 0.05 mm)	Rotation angle in degrees	Lift in mm (± 0.05 mm)	Rotation angle in degrees	Lift in mm (± 0.05 mm)	Rotation angle in degrees	Lift in mm (± 0.05 mm)
0				0			
- 5		+ 5		- 5		+ 5	
- 10		+ 10		- 10		+ 10	
- 15		+ 15		- 15		+ 15	
- 30		+ 30		- 30		+ 30	
- 45		+ 45		- 45		+ 45	
- 60		+ 60		- 60		+ 60	
- 75		+ 75		- 75		+ 75	
- 90		+ 90		- 90		+ 90	
- 105		+ 105		- 105		+ 105	
- 120		+ 120		- 120		+ 120	
- 135		+ 135		- 135		+ 135	
- 150		+ 150		- 150		+ 150	

A shift of ± 2 degrees of the whole measurement is accepted

- c) Maximum valve lift

Intake	Exhaust
± 0.2 mm	± 0.2 mm

with clearance according to Art. 326a

C10-1) Camshaft - dismounted



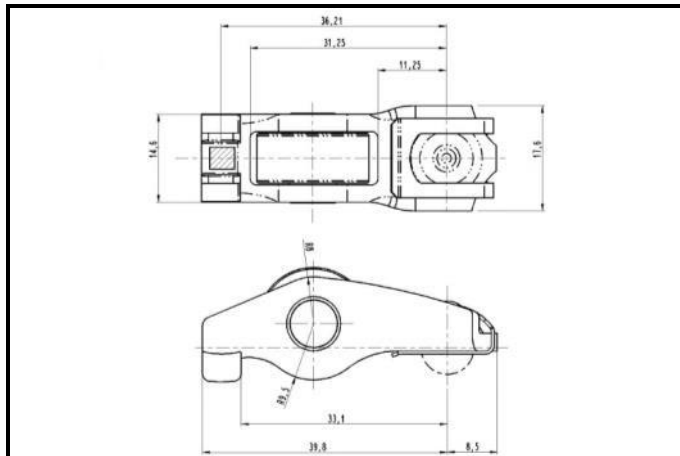
C10-2) Camshaft - dismounted



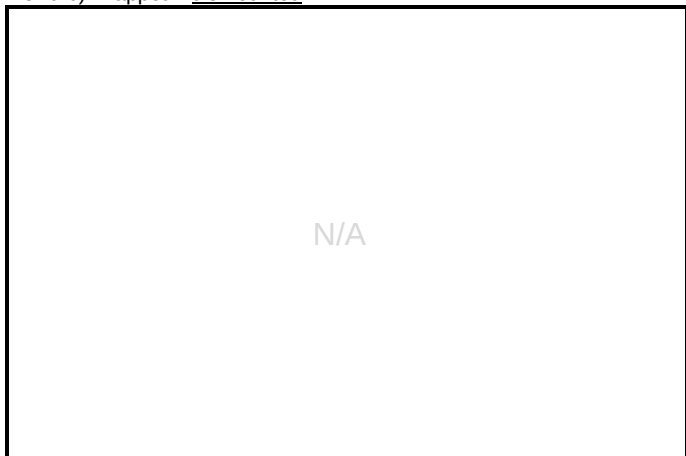
C10-5) Rocker arm – dismounted



III-J2) Rocker arm – typical dimensions



C10-6) Tappet – dismounted



N/A

III-J3) Tappet – typical dimensions



N/A

C10-7) Timing belt or chain – dismounted


Pitch: **6.35 mm**
Number of teeth: **170**
Nominal length: **1079.5 mm**
Width: **12.28 mm**

327. INTAKE

- a) Air filter housing
- b) Air filter element

Make: **BMC**

Identification: **ACCDA90-220A**

Make: **BMC**

Identification: **SPCDA100-200S-6L**

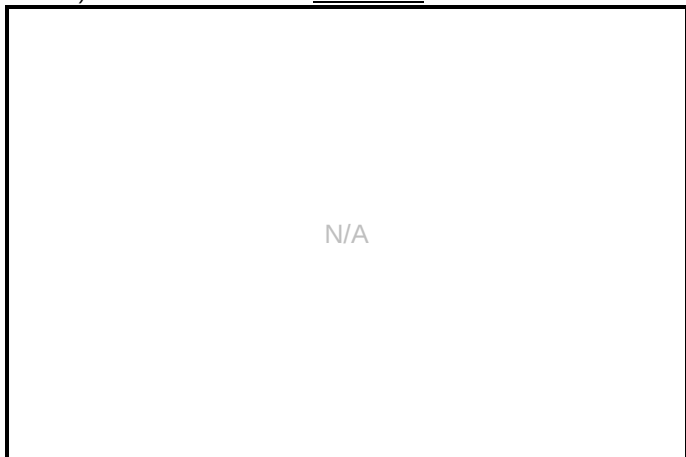
C11-1) Intake manifold - dismounted

C11-2) Air filter and its housing - dismounted

C11-3) Throttle unit - dismounted

C11-4) Throttle unit - dismounted


C11-6) Pressure relief valve - dismounted



C11-7) Pressure relief valve – Mounted on manifold



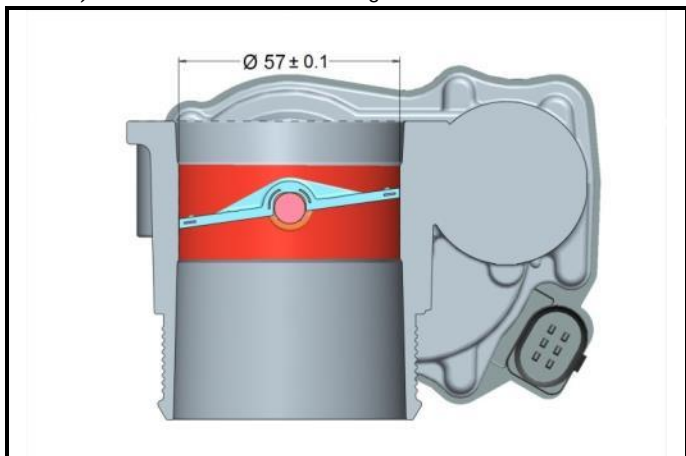
C11-8) Air ducts - dismounted



C11-9) Intake manifold & Air ducts – in location



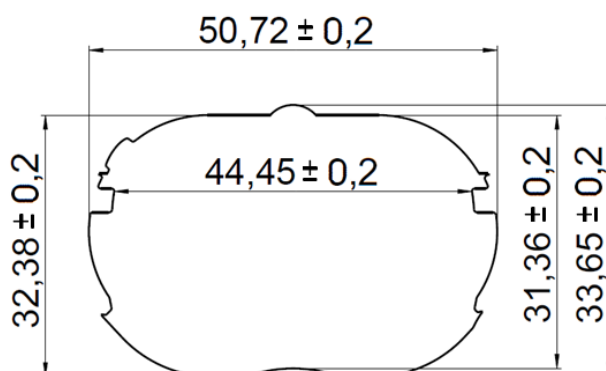
III-K4) Section dimensioned drawing of the throttle-unit



INTAKE

Drawings of manifold ports - tolerances on dimensions

III-K2) Manifold, cylinder head side

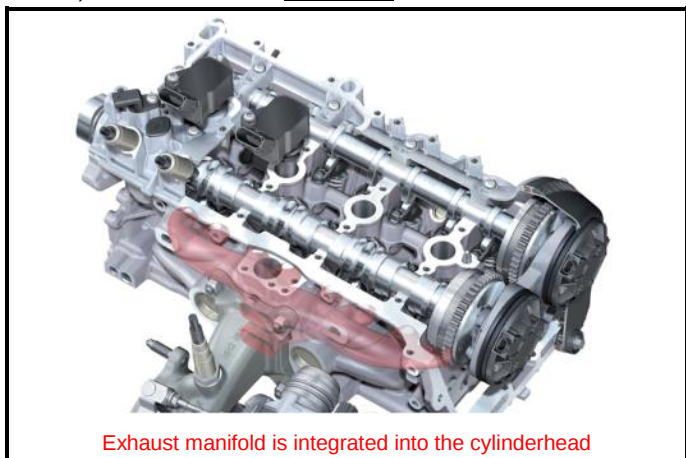
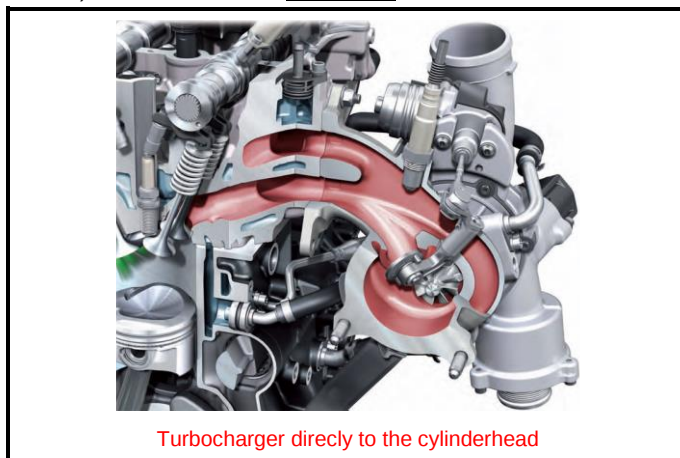


III-K3) Manifold cross section

N/A

328. EXHAUST

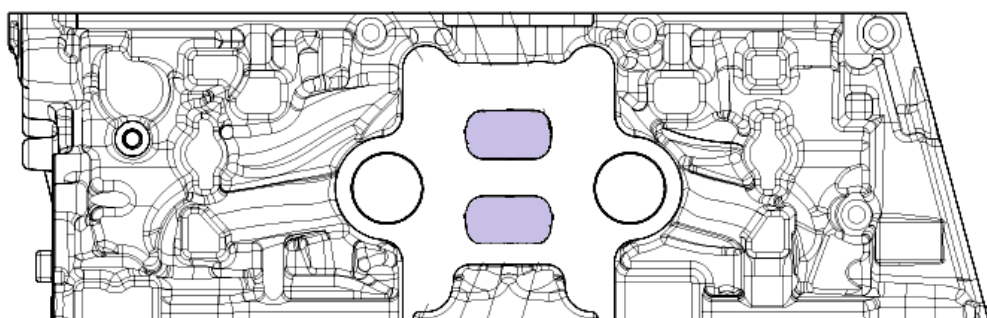
a) Material of manifold	Steel		
b) Number of manifold elements	Integrated into the cylinderhead		
c) Internal dimensions of manifold exit	39,45 x 22,39	± 0.2 mm	
c1) Minimum thickness of tubes	-	mm	
e) Maximum diameter of the valve	28	mm	e1) Angle of valve head 44° 50 min deg ± 30 min
f) Diameter of valve stem in guide	6	-0.2 mm	
g) Valve length	102	± 1.5 mm	
h) Catalyst	2		Homologation: DMSB-CAT-1-17/16

C12-1) Exhaust manifold - dismounted

C12-2) Exhaust manifold - dismounted


EXHAUST

Drawings of manifold ports - tolerances on dimensions

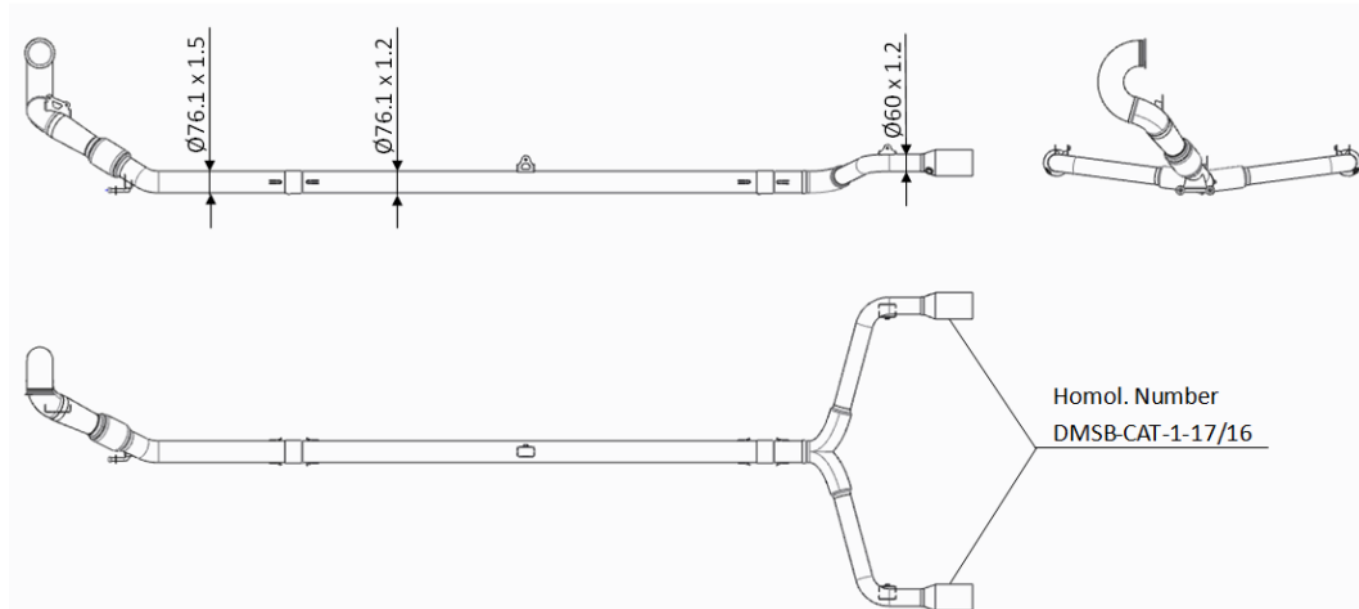
III-L2) Manifold, cylinder head side



C12-3) Low noise silencer (option)



III-L3) EXHAUST SYSTEM

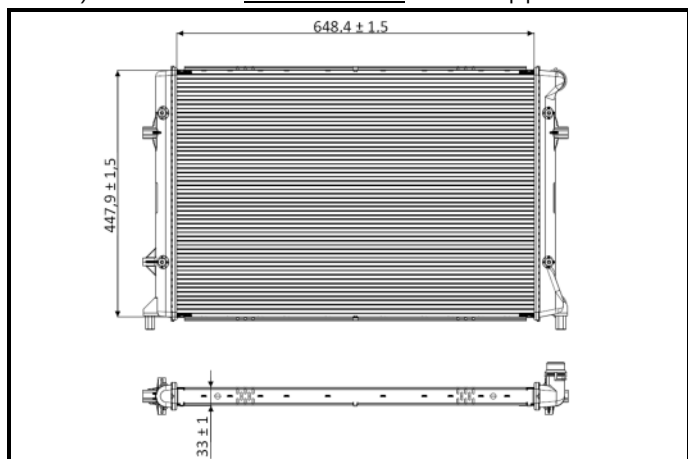


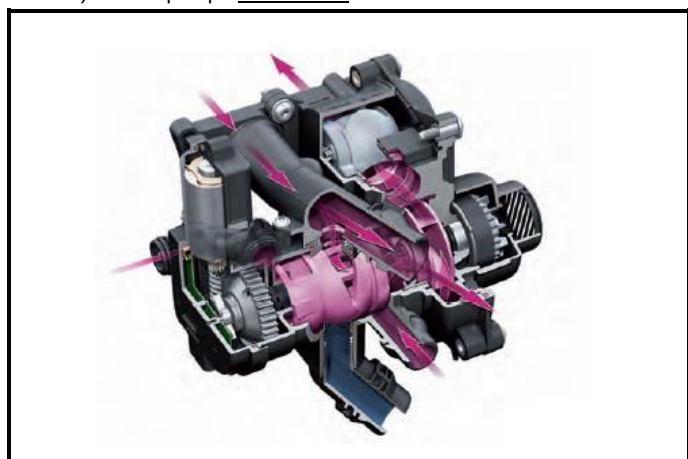
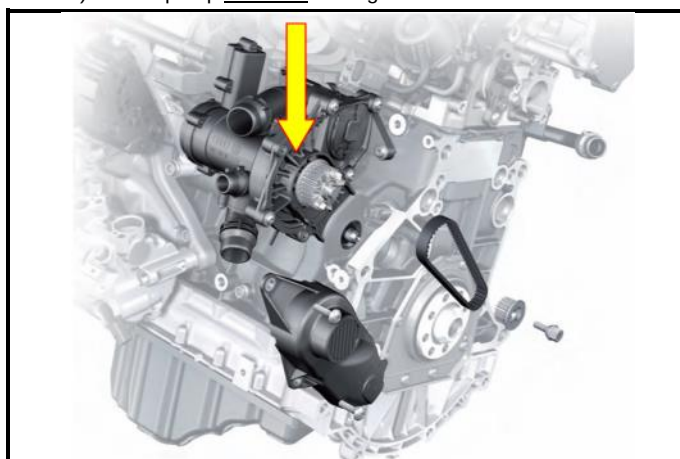
331. COOLING SYSTEM

- a) Water Radiator: **One radiator at the front**
- c) Type of the water pump: **Mechanical / Serial pump**
- d) Type of the Thermostat: **Mechanical commanded electronically**

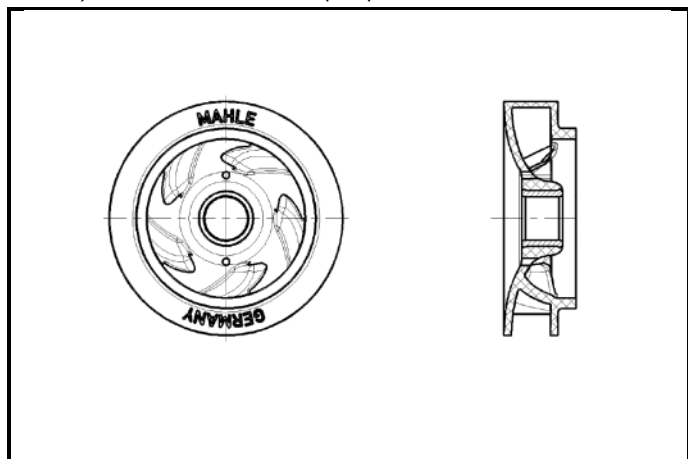
Origin: **OEM VW GROUP** Identification: -

Identification: -

C13-1) Water radiator dismounted with hoses and pipes

C13-2) Water radiator in location

C13-3) Water pump - dismounted

C13-4) Water pump mounted on engine


C13-5) Turbine wheel of water pump


C13-6) Water cooler air ducts - dismounted


332. COOLING FAN(S)

- | | | | | |
|-------------------|--------------------|-----------------------|------------|----|
| a) Number | 1 | b) Fan max. diameter: | 363 | mm |
| c) Fan's material | Plastic | d) Number of blades | 7 | |
| e) Type of drive | ECU control | f) Automatic cut off | Yes | |

C13-7) Electric & mechanic fans dismantled



C13-8) Electric & mechanic fans in location

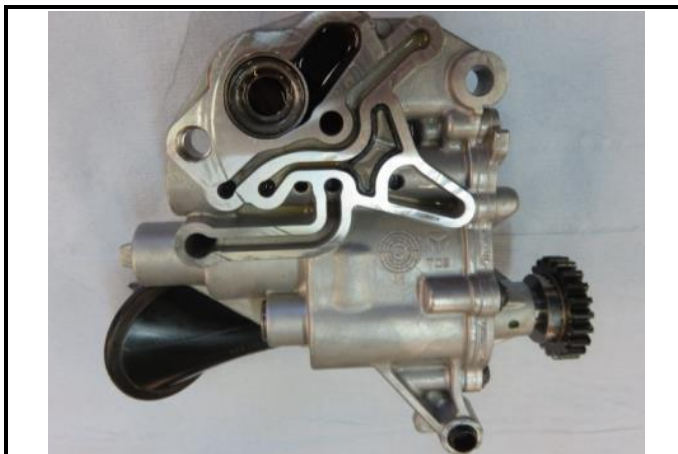
333. LUBRICATION SYSTEM

- | | | | | |
|--------------------------|----------------|--------------|------------|------------|
| a1) Material of oil sump | Plastic | a2) Capacity | 6.5 | ±0.5 litre |
|--------------------------|----------------|--------------|------------|------------|

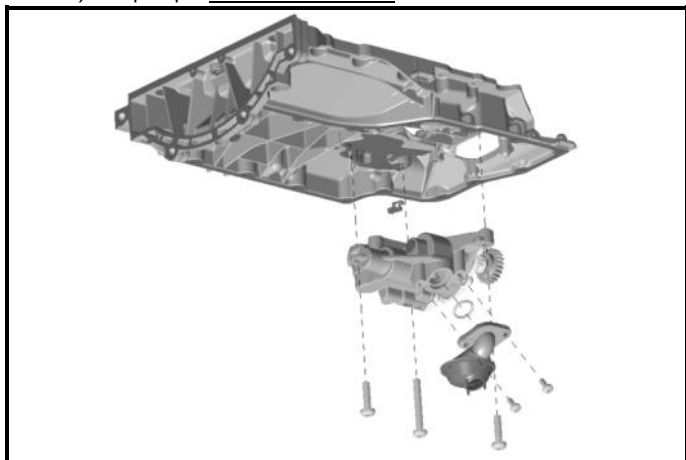
C14-1) Oil sump with bafflers, deflectors and spacer – dismounted (exploded view)

C14-2) Oil sump with bafflers, deflectors and spacer – dismounted (exploded view)

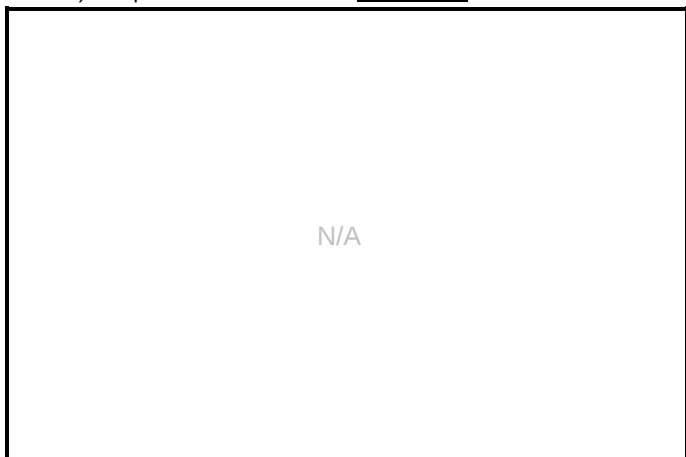
C14-3) Oil pump - dismounted

C14-3b) Oil pump – dismounted


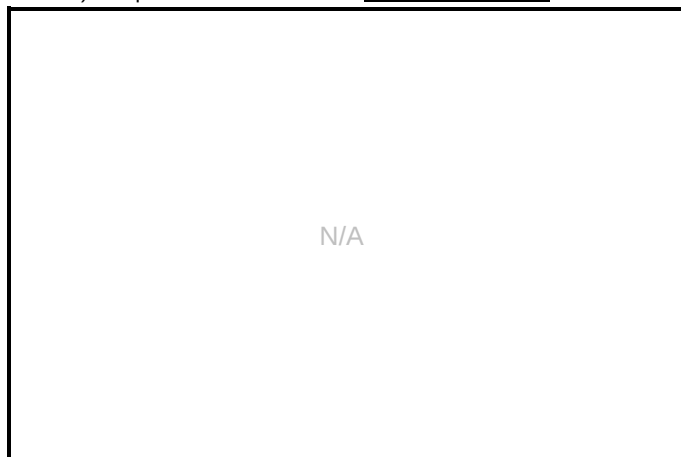
C14-4) Oil pump – mounted in location



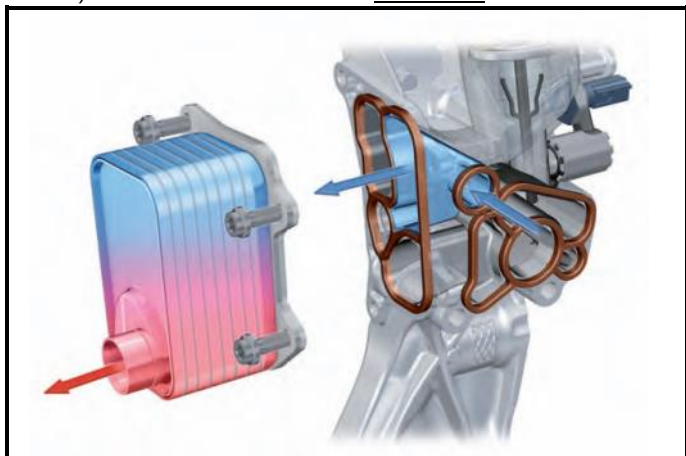
C14-7) Oil pressure accumulator - dismounted



C14-8) Oil pressure accumulator – mounted in location



C14-9) Oil cooler with connections - dismounted



C14-10) Oil cooler – mounted in location



334. TURBOCHARGING

a) Make of turbocharger Identification: Origin: **OEM VW GROUP**

c) Turbine wheel

c1) Material

Steel

c2) Number of blades

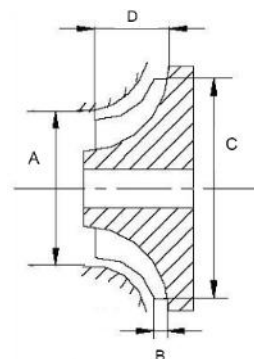
12

c4) Dimensions A, B, C, according to the sketch

A = **47,45** ± 0.1 mm

B = **6,80** ± 0.3 mm

C = **54,65** ± 0.1 mm

D = **19.10** ± 0.30 mm


d) Impeller housing

d1) Number of air entries (mixture)

d2) Material

Cast aluminium

e) Impeller wheel

e1) Material

Aluminium

e2) Number of blades

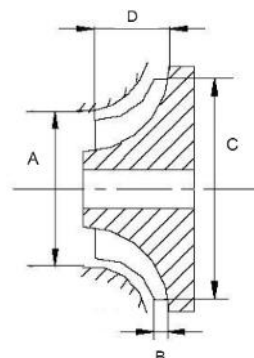
8

e4) Dimensions A, B, C, according to the sketch

A = **44,97** ± 0.1 mm

B = **5,25** ± 0.1 mm

C = **57,95** ± 0.2 mm

D = **23,40** ± 0.1 mm


f) Pressure regulation

By-pass

Relief valve

Other

f1) Type of pressure adjustment



f2) Type of pressure adjustment

± 0.5 mm

Pressure regulation's linear stroke

g) Exhaust system

g1) Internal dimensions of the possible pipes between manifold and turbocharger

-

± 2mm

i) Maximum absolute supercharging pressure

Mbar

h) Cooling of intake air

Type: **air to air**

OEM origin:

Audi TT RS

Identification: **Label**

h3) Air inlet diameter

60

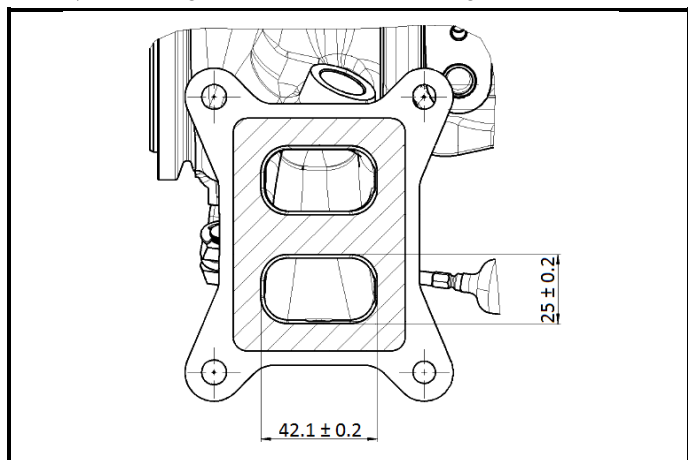
± 1mm

h4) Air outlet diameter

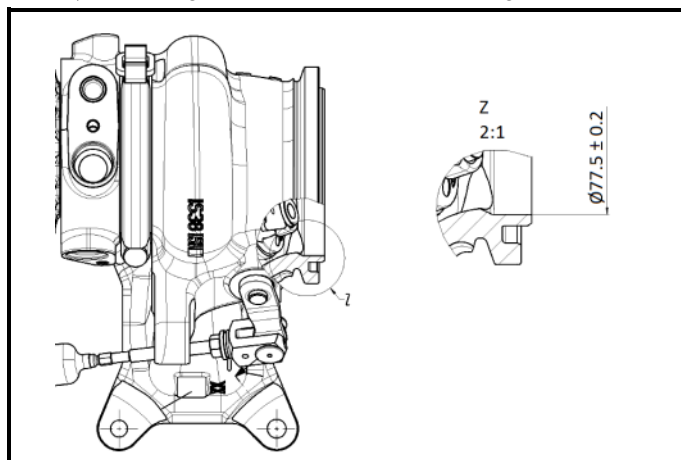
60

± 1mm

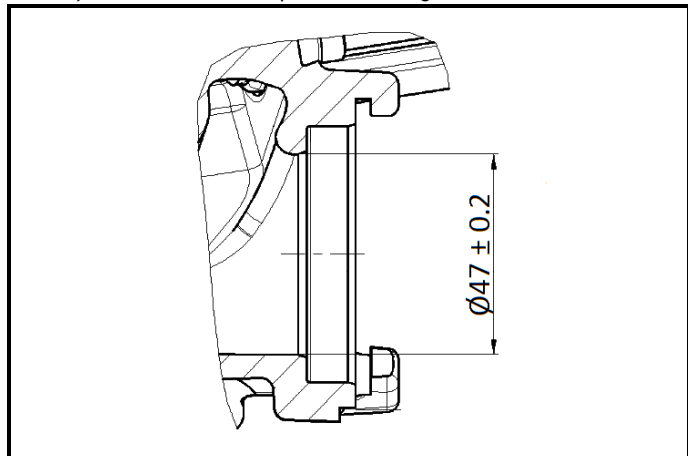
III-01) Exhaust gas inlet to the turbine housing



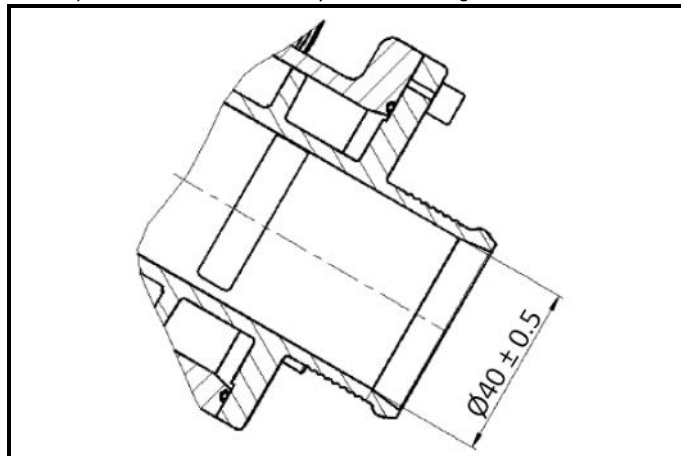
III-02) Exhaust gas outlet from the turbine housing



III-03) Air inlet to the compressor housing



III-04) Air outlet from the compressor housing



C15-1) Plan view of complete turbocharger unit



C15-2) Front view of complete turbocharger unit



C15-3) Side view of complete turbocharger unit



C15-4) Valve and by-pass installation of turbocharger



C15-5) Exhaust system between manifold and turbocharger



C15-6) Turbocharger unit with Air Restrictor



C15-7) Compression housing of turbocharger - dismounted



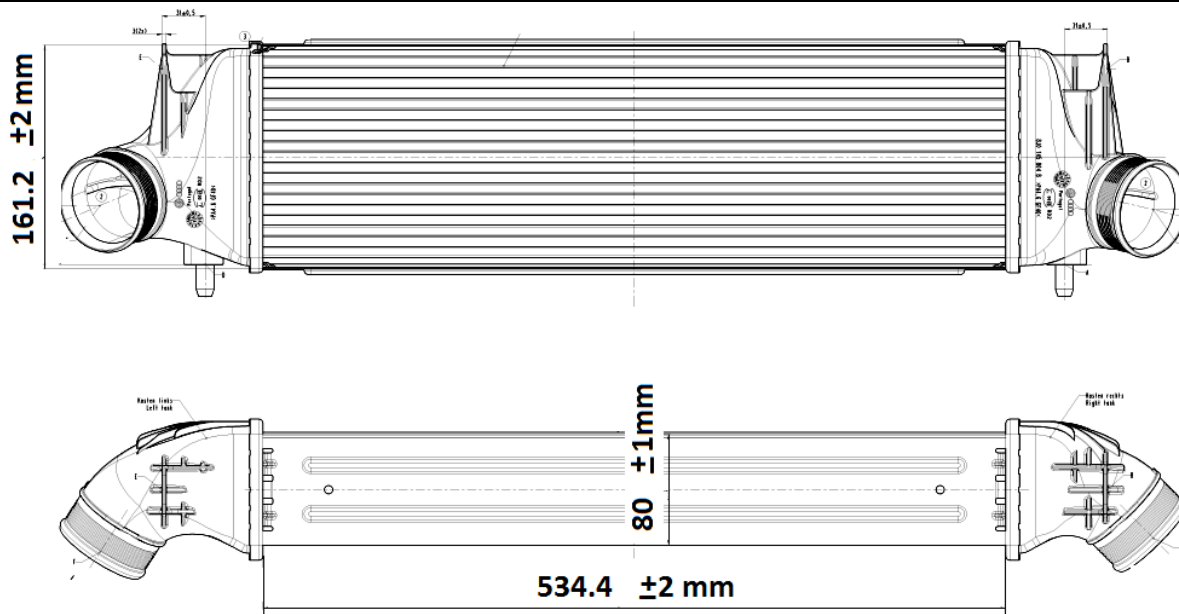
C15-8) Turbine housing of turbocharger - dismounted

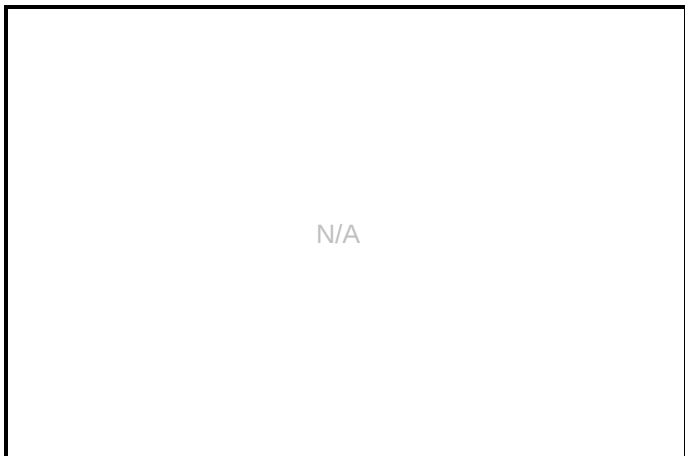


C15-9) Intercooler - dismounted

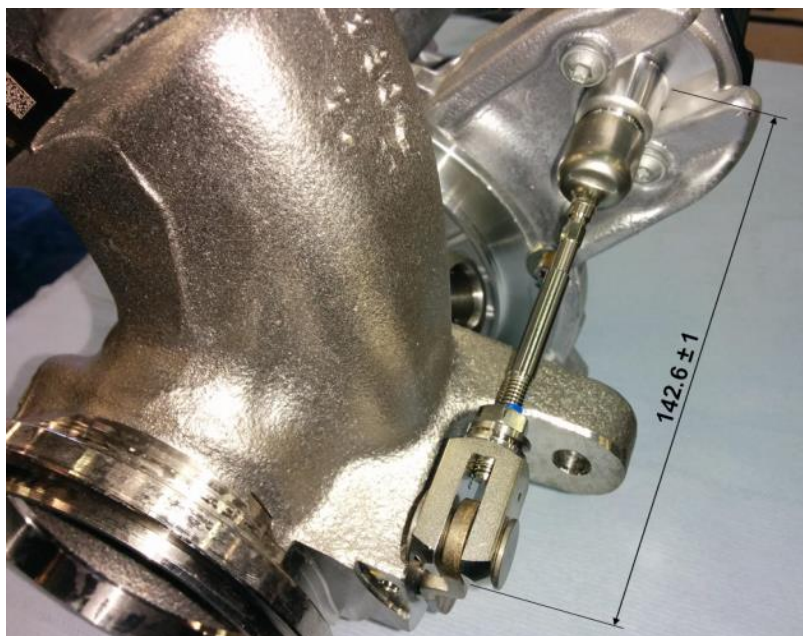
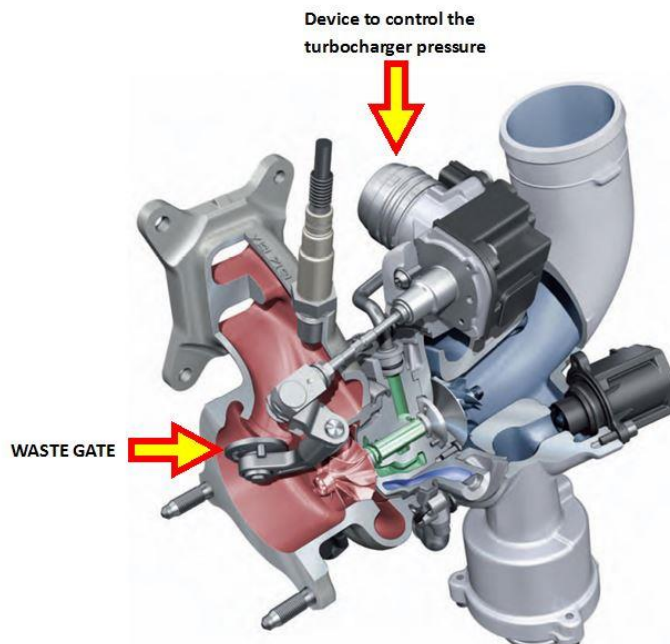
C15-10) Intercooler - mounted in location with air ducts


III-05) Drawing of the intercooler with dimensions of core (Width x Height x Thickness)


Origin: **AUDI TT RS 2010**

C15-10) Air injection system - dismounted

C15-11) Air injection system - mounted in location


III-06) DEVICE REGULATING THE TURBOCHARGER PRESSURE



Wastegate Stroke: 8.5mm ± 0.7

4. FUEL CIRCUIT (Not relevant fields may be deleted)

401. FUEL TANK

MODIFIED PRODUCTION FUEL TANK

- | | | | |
|----------------------------|--|---|---|
| a) Number | 1 | | |
| b) Location | Rear and under the bodywork (series position) | | |
| c) Material | Plastic | | |
| d) Total capacity | 58 | ± 3 litres | |
| e) Filler: Type / Make: | Refueling nozzle | Position: Right side over the rear wheel | |
| f) Transfer Pump: | Make / Type / Ident: Protec / Centrifugal | Number: 1 | Location: Fuel tank (left side) |
| g) Low pressure fuel pump: | Make / Type / Ident: VW Group / Centrifugal | Number: 1 | Location: Fuel tank (right side) |

D1-1) Fuel tank dismounted view from the top

D1-2) Fuel tank in location view from the bottom

D1-3) Fuel tank filler in location


D1-4) Fuel tank filler cover and fire wall


D1-5) Fuel sampling connector dismounted (FIA Ref.:)

D1-6) Fuel sampling connector in location

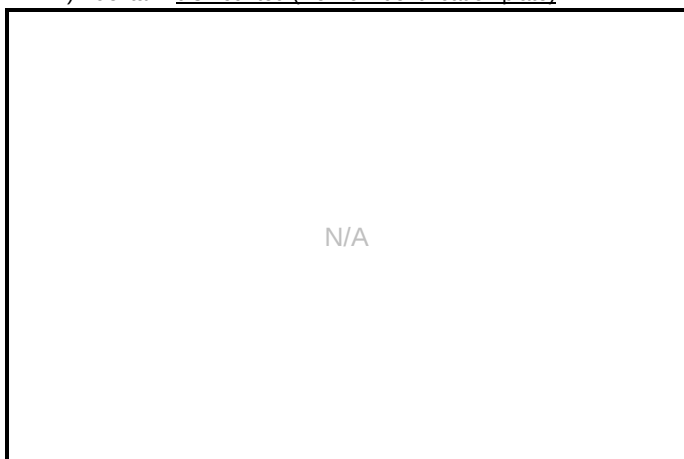

D1-7) Low pressure fuel pump(s) - dismounted

D1-8) Low pressure fuel pump(s) - in its location

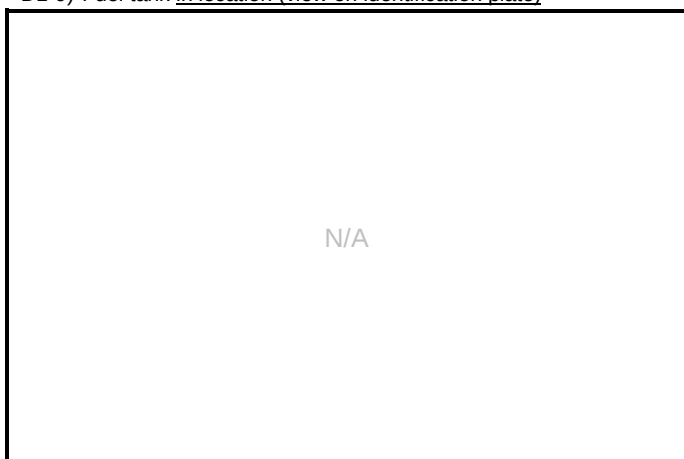

SAFETY FUEL TANK (OPTION)

- | | | |
|-----------------------------|---------------------|-----------------|
| a) Number | Make: | Identification: |
| b) Location | | |
| c) Material | | |
| d) Total capacity | ± 3 litres | |
| e) Location of filler holes | | |
| f) Safety valve: | Overpressure valve: | |

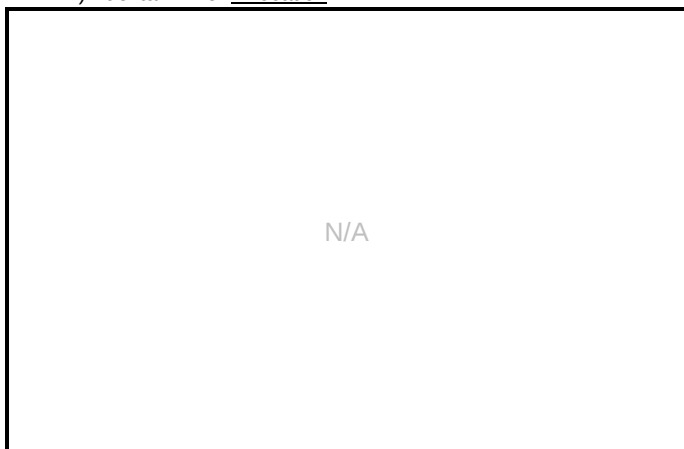
For safety tanks mark position of identification plate on the bladder and the inspection cover.

D1-7) Fuel tank dismounted (view on identification plate)


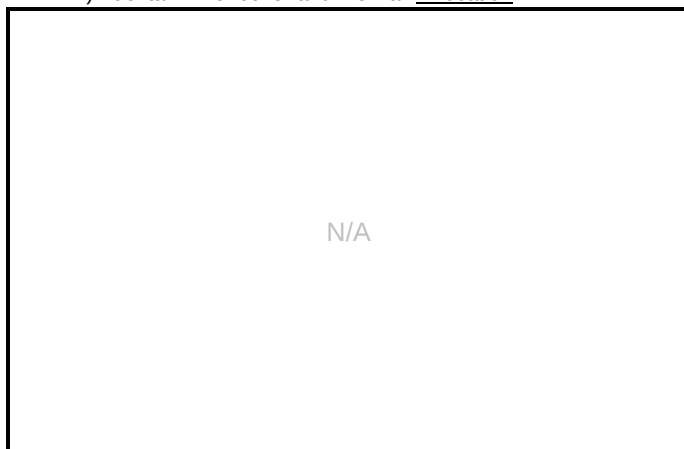
D1-8) Fuel tank vane


D1-9) Fuel tank in location (view on identification plate)

D1-10) Fuel tank in location (view on identification plate)

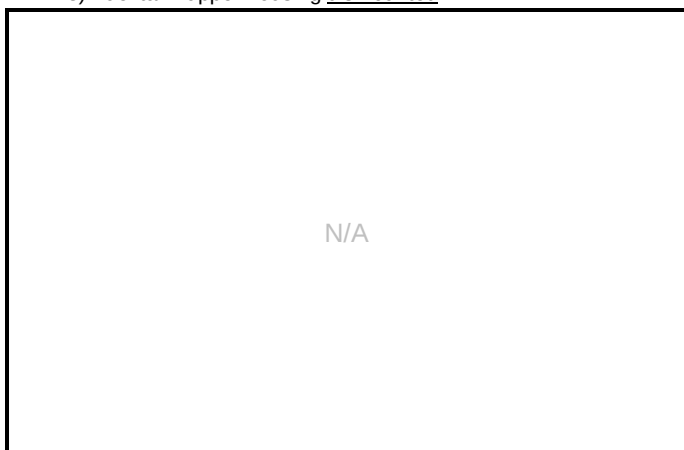

D1-11) Fuel tank filler in location



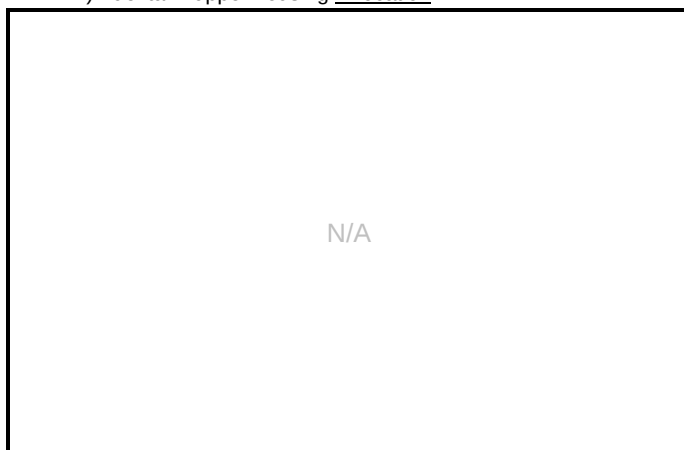
D1- 12) Fuel tank filler cover and fire wall in location



D1-13) Fuel tank upper housing dismounted



D1- 14) Fuel tank upper housing in location



LONG DISTANCE SAFETY FUEL TANK (OPTION)

a) Number: **1**

Make: **PREMIER**

Identification: **F221**

b) Location

Rear and under the bodywork

c) Material

Rubber (FIA Standard FT3 bag)

d) Total capacity

100 litres (Maximum 100 litres)

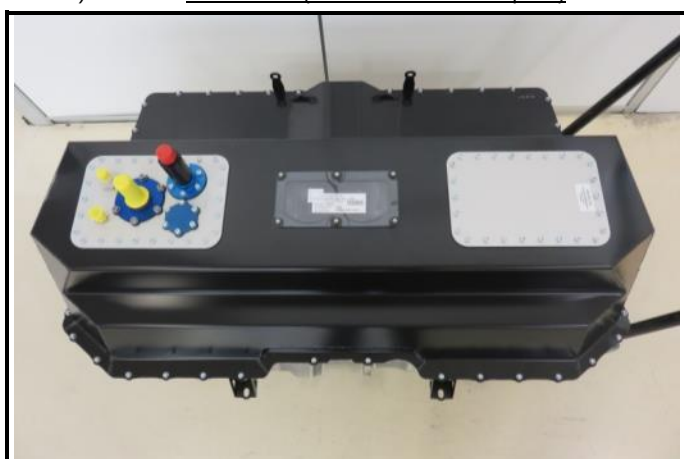
e) Location of filler holes

Cockpit behind series codriver seat position

f) Safety valve: **Sobek Z-V 9009 0028**

Overpressure valve: **Idem safety valve**

D1-15) Fuel tank dismounted (view on identification plate)



D1-16) Fuel tank in location (view from below)



D1-17) Fuel tank in location (view on identification plate)



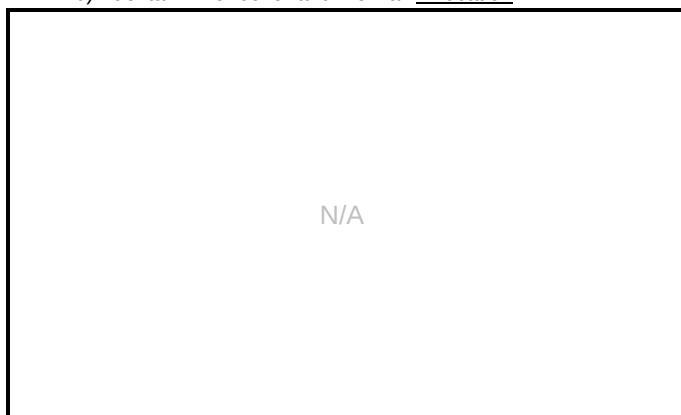
D1-18) Fuel tank in location



D1-19) Fuel tank filler in location



D1- 20) Fuel tank filler cover and fire wall in location



D1-21) Fuel tank upper housing dismounted



D1- 22) Fuel tank upper housing in location



D1-23) Fuel tank vane dismounted



D1- 24) Fuel tank bladder dismounted



402. FUEL PUMP(S)

- a) Transfer Pumps: Make / Type / Ident: - Number: - Location: -
b) Low pressure pumps: Make / Type / Ident: **VW Group / Centrifugal** Number: **1** Location: **Fuel tank (right side)**
f) HP pump Make / Type / Ident: **VW Group / Piston** Number: **1** Location: **Engine**

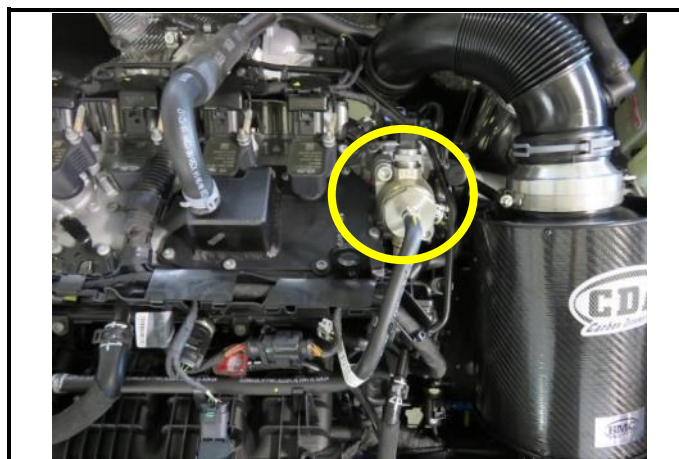
HP pump cam lift in mm (dismounted camshaft)

BELONGING TO EA888 ENGINE

Rotation angle (degrees)	Lift (± 0.05 mm)
0	
- 5	
- 10	
- 15	
- 30	
- 45	
- 60	
- 75	
- 90	
- 105	
- 120	
- 135	
- 150	
- 165	
- 180	

Rotation angle (degrees)	Lift (± 0.05 mm)
0	
+ 5	
+ 10	
+ 15	
+ 30	
+ 45	
+ 60	
+ 75	
+ 90	
+ 105	
+ 120	
+ 135	
+ 150	
+ 165	
+ 180	

D2-1) High Pressure Fuel Pump - dismounted

D2-2) High Pressure Fuel Pump - in location

D2-3) Low pressure fuel pump - dismounted

D2-4) Low pressure fuel pump - in location


5. ELECTRICAL EQUIPMENT

501. BATTERY

- a) Type: **Dry 40Ah** Make: **Odyssey / SBS**
b) Location: **Luggage compartment**

E1-1) Battery – dismounted

E1-2) Battery –in location


504. STARTER

- a) Position **Above and front of the gearbox.**

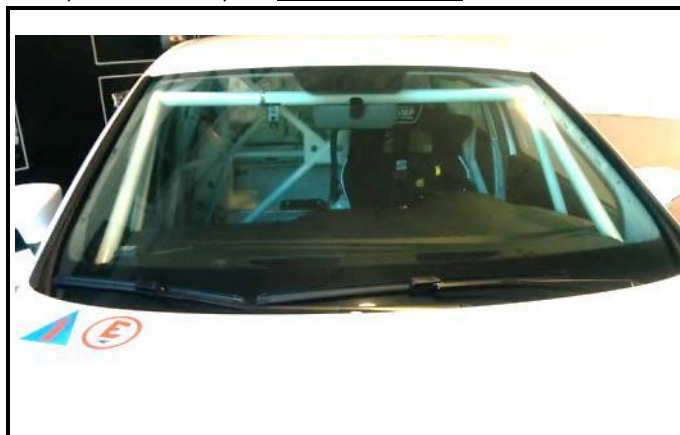
E1-3) Starter – dismounted

E1-4) Starter – mounted in location

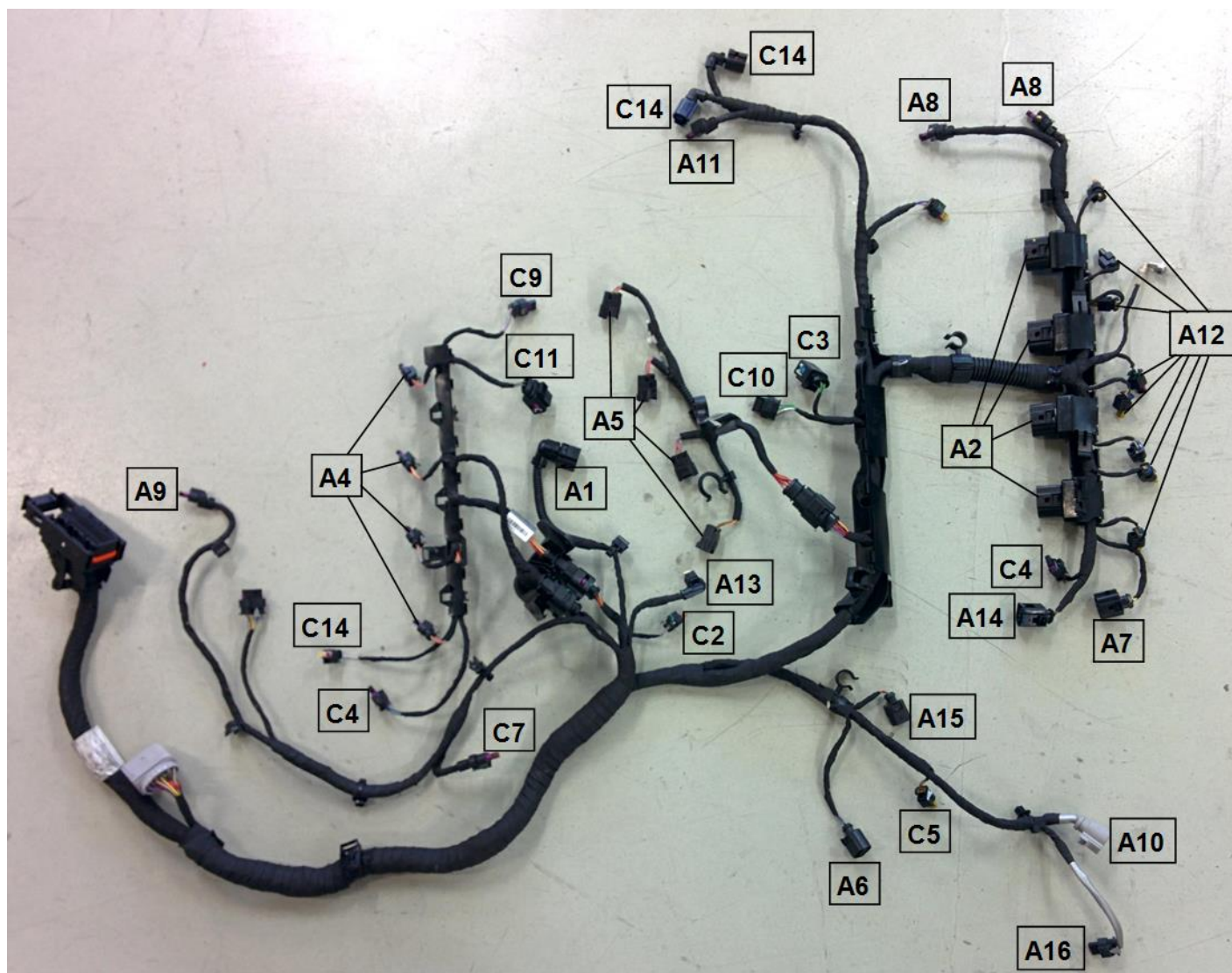

WINDSCREEN WIPER

- Number of blades: **2** Position: **Bottom of windscreen (left and center)**

E1-3) Windscreen wiper drive – dismounted

E1-4) Windscreen wiper – mounted in location


ENGINE LOOM DRAWING



CAR LOOM DRAWING



6. POWER TRAIN

602. CLUTCH

INTEGRATED TO GEARBOX

- a) Make and Type: **OEM VW GROUP** Number of plates: - Friction diameter of the plate(s): - $\pm 2\text{mm}$
- b) Control system: **Electronic** Make and Type of clutch release bearing: **OEM VW GROUP**
Make and Type of clutch master cylinder: **OEM VW GROUP**
Power-driven clutch: - Make: **OEM VW GROUP** Identification: -
- c) Weight: **7.80 kg**

F1-1) Clutch dismounted



F1-2) Clutch Control system dismounted



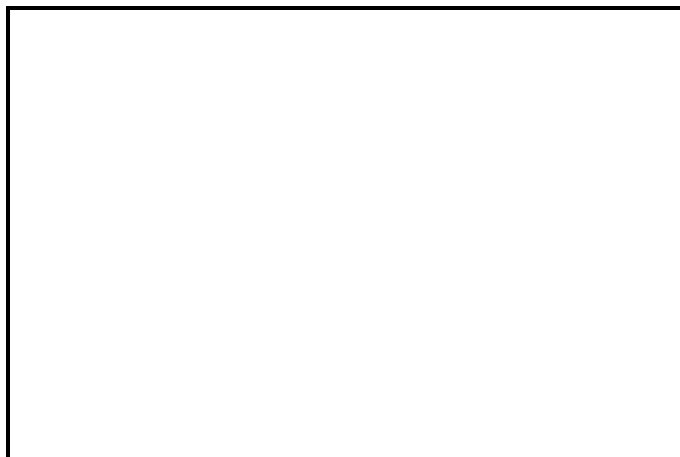
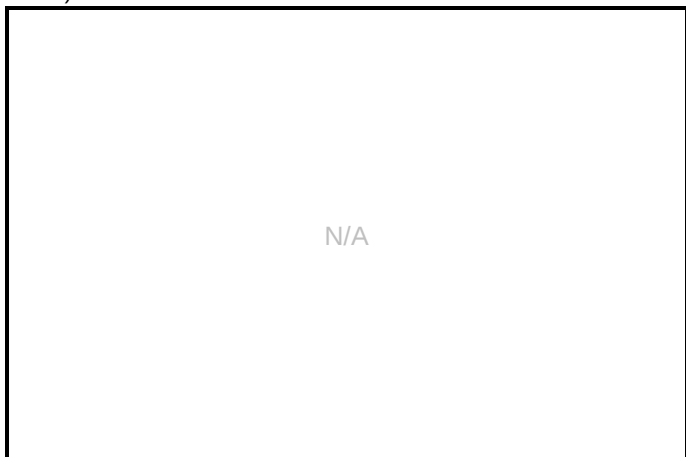
F1-3) Clutch actuation in location



F1-4) Clutch release bearing in location



F1-5) Clutch fluid reservoir in location



603. GEARBOX

Mass production gearbox



Sequential racing gearbox


b) Make / Type: **OEM VW Group / Automatic**

c) Supports: **2**

d) Type of control: **Mechatronic**

Paddle shift: **Yes**

location of control: **Inside of gearbox**

Make: **OEM VW Group**

Identification: **C-XXX**

e) Gear ratios:

MASS PRODUCTION GEARBOX					SEQUENTIAL RACING GEARBOX				
	No. of teeth	Ratio	Constant	Synchro		No. of teeth	Ratio	Constant	Synchro
1	13/38	2.923	☐	☒	1			☐	☐
2	22/45	2.045	☐	☒	2			☐	☐
3	28/41	1.464	☐	☒	3			☐	☐
4	38/41	1.078	☐	☒	4			☐	☐
5	32/35	1.094	☐	☒	5			☐	☐
6	38/35	0.921	☐	☒	6			☐	☐
7			☐	☐					
AR/R	13/27 14/22	3.264	☐	☒	AR/R			☐	☐
Constant					Constant				

Following information and pictures will be presented for both types of transmission (Mass Production and Racing) if necessary.

g) Type of lubrication:

Oil pressure

h) Cooling:

Water cooling

i) Dry Weight as shown in F2-1:

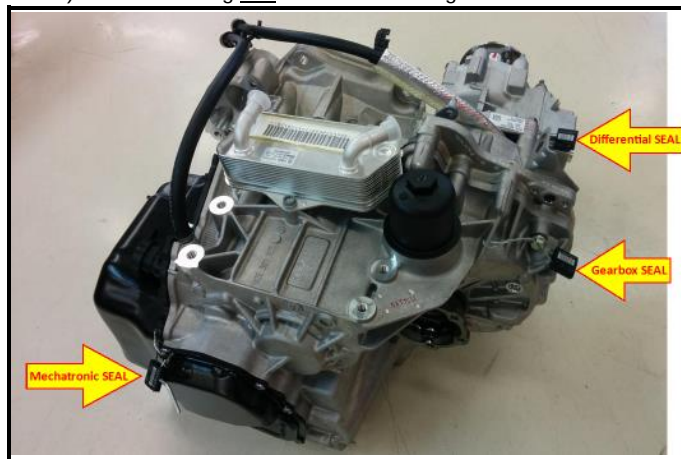
91.5

kg ±0.5kg

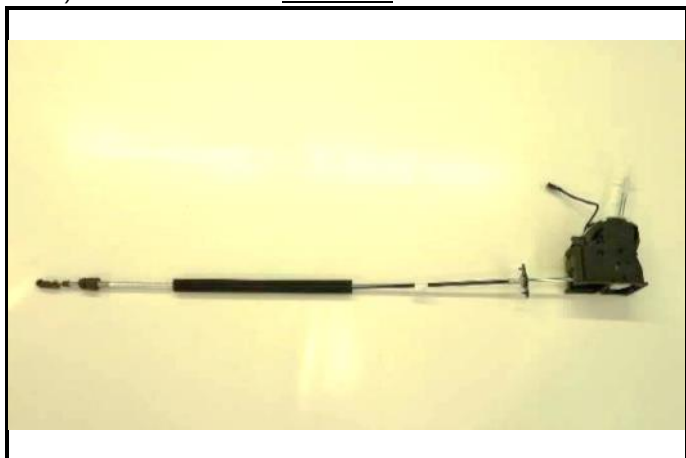
F2-1) Gearbox casing and clutch bell housing



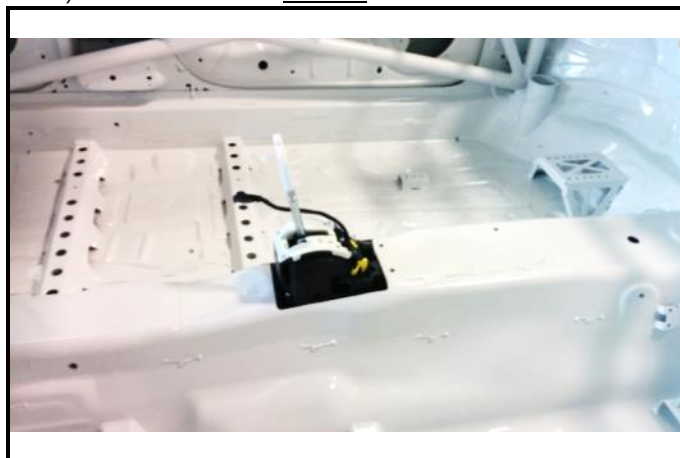
F2-2) Gearbox casing and clutch bell housing



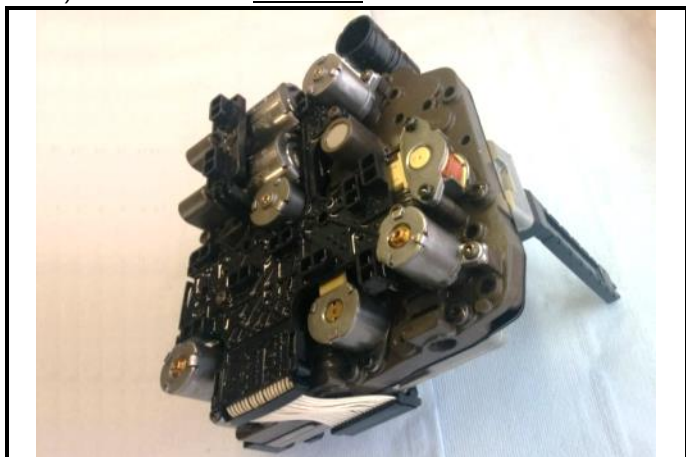
F2-3) Gearbox command - dismounted



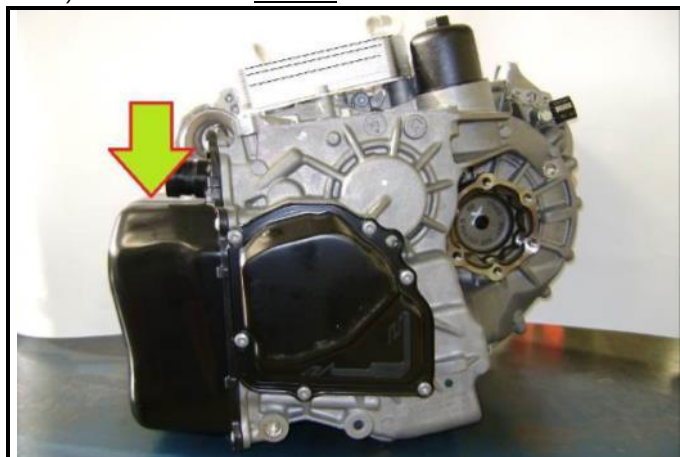
F2-4) Gearbox command - mounted



F2-5) Gearbox control - dismounted



F2-6) Gearbox control - mounted



F2-7) Gearbox cooling – dismounted



F2-8) Gearbox cooling – in location



605. FINAL DRIVE

Following information and pictures will be presented for both types of transmission (Mass Production and Racing) if necessary.

Mass Production Gear Box

Ratio(s)	Number of Teeth	Used for gears
4.8	15 / 72	1, 2, 3, 4
3.6	20 / 72	5, 6

Limited Slip Differential:

Type: **Electro-hydraulic**

Make: **OEM VW GROUP**

Identification: **D-XXX**

Number of pressure rings:

Number	1	2	3	4
Angles $\alpha / \beta \pm 1^\circ$				

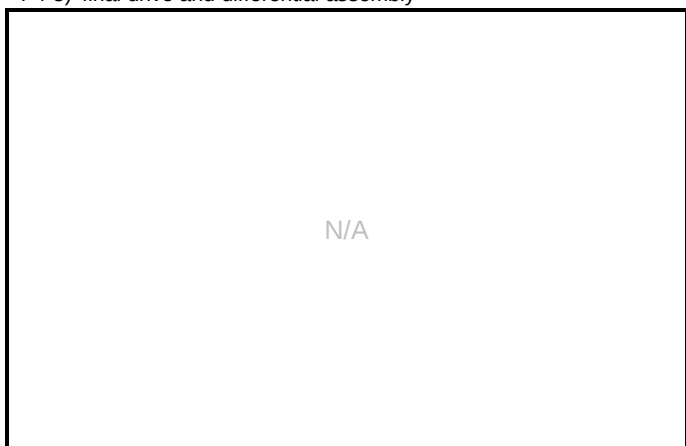
F4-1) Final drive casing (3/4 from bottom left)



F4-2) Final drive casing (3/4 from top right))



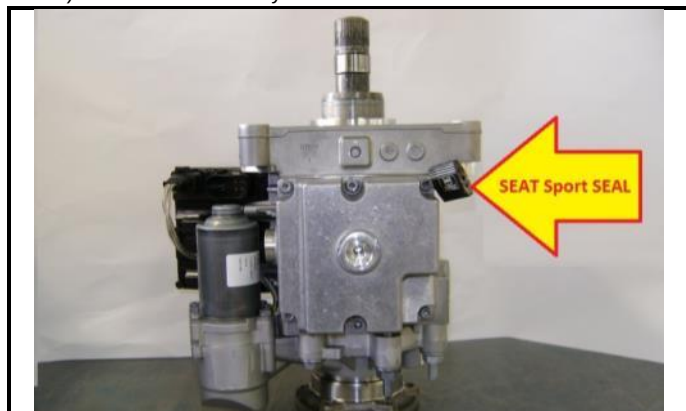
F4-3) final drive and differential assembly



F4-4) Final drive dismantled



F4-5) Differential assembly



F4-6) Differential dismantled

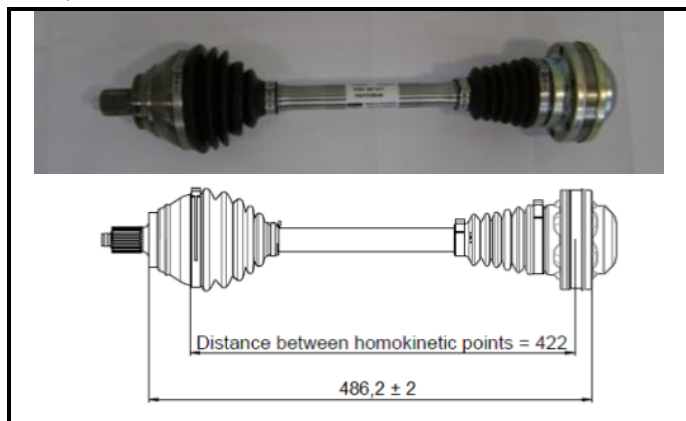


606. DRIVE SHAFTS

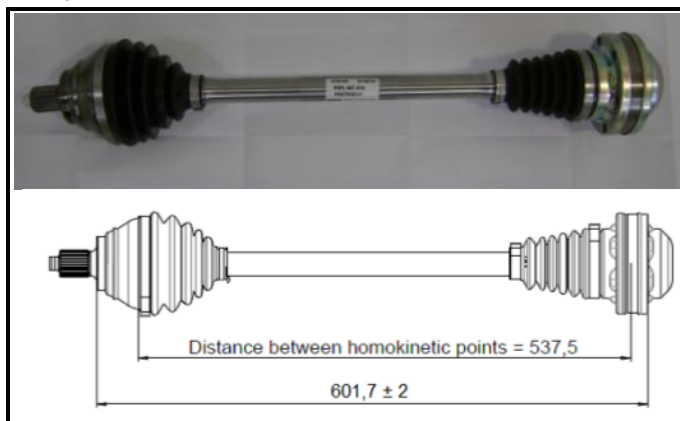
Following information and pictures will be presented for both types of transmission (Mass Production and Racing) if necessary.

Type :	Motorsport	Make :	GKN
Joint on final drive side:	Lobro joint	Joint on wheel side:	Fixed ball joint

F5-1) LHS Drive Shaft



F5-2) RHS Drive Shaft



7. AXLES, SUBFRAMES AND SUSPENSION

FRONT

Supports:

Number: **4**

Type: **Bolt**

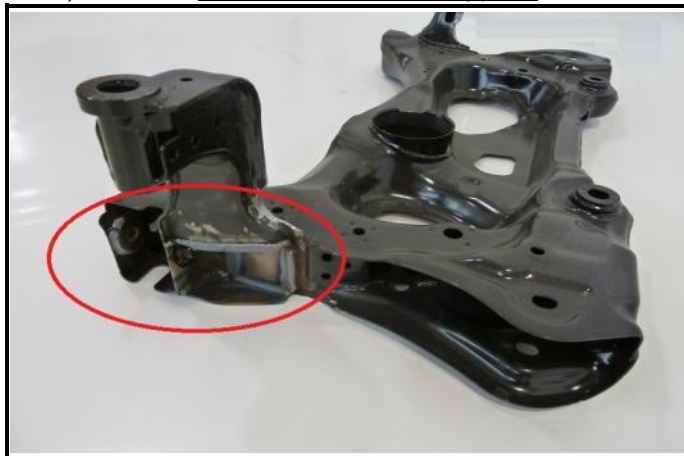
Shock absorber:

Make & Type: **Bilstein**

Setting identification: -

G2-1) Subframe dismounted

G2-2) Subframe in location

G2-3) Subframe – Modification of axle mounting points

G2-4) Subframe – Modification of axle mounting points

G2-5) Subframe – Modification of axle mounting points

G2-6) Subframe – Supports' Modification

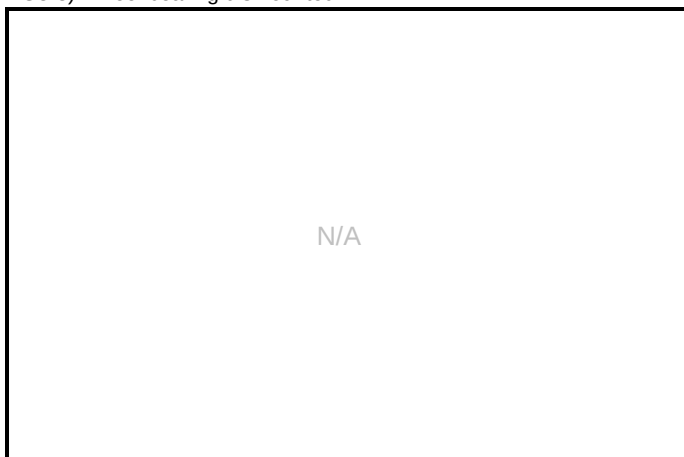

G3-1) LHS Bare hub-carrier – dismounted



G3-2) RHS Bare hub-carrier – dismounted



G3-3) Wheel bearing dismounted



G3-4) Wheel carrier dismounted



G3-5) Wheel hub dismounted

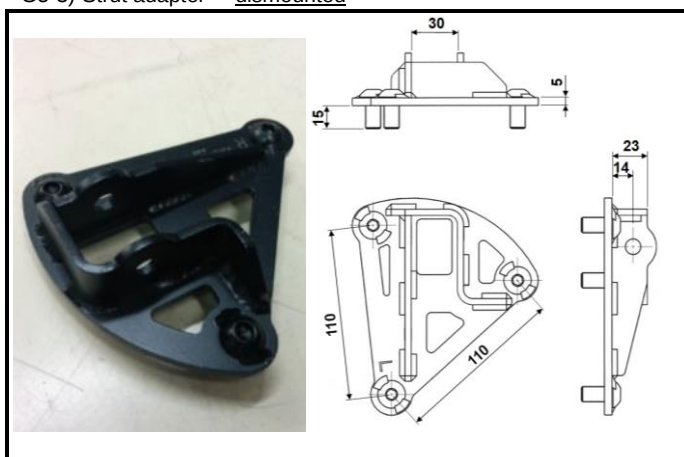
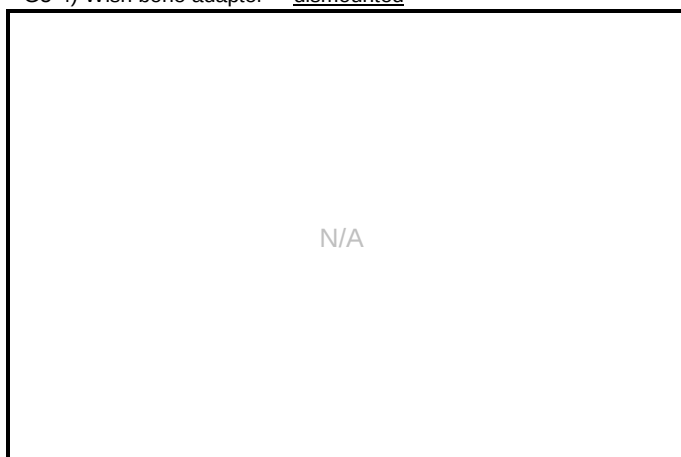


G3-6) Wheel hub mounted

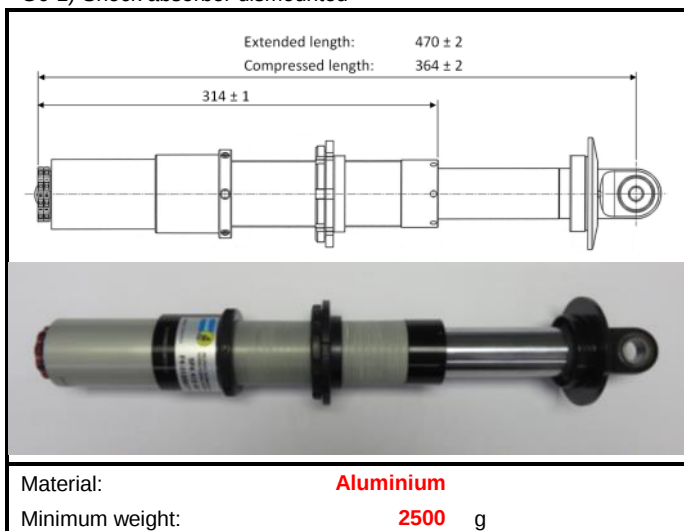


G5-1) Complete wishbone/arm **front** – dismounted

G5-2) Complete wishbone/arm **front** – dismounted

G5-3) Strut adapter – dismounted

G5-4) Wish bone adapter – dismounted


G6-1) Shock absorber dismounted



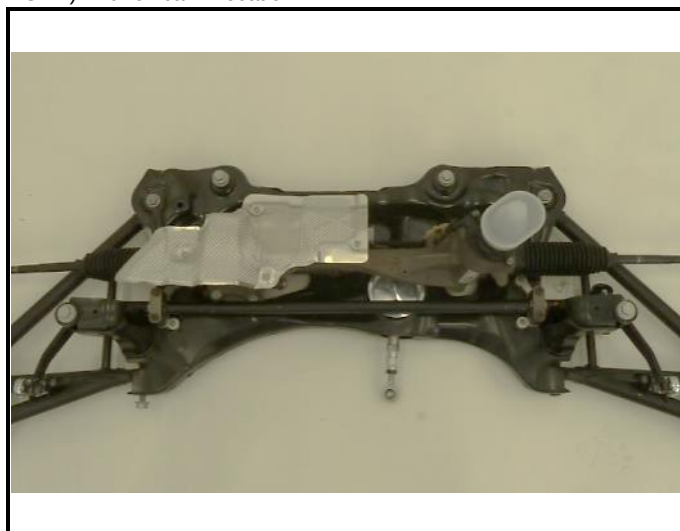
G6-2) Shock absorber in location



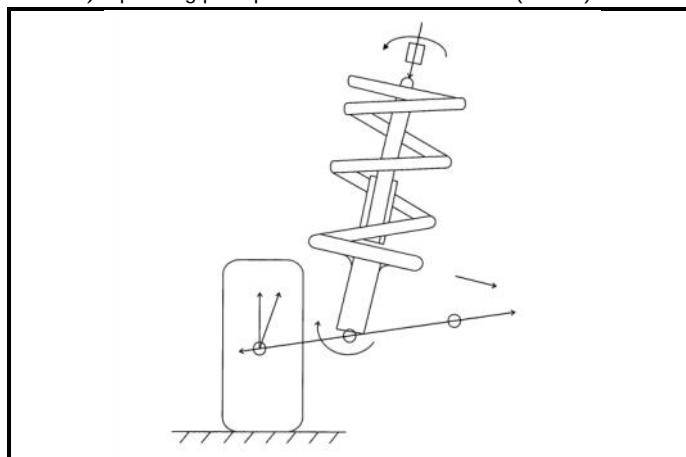
G7-1) Anti roll bar dismounted



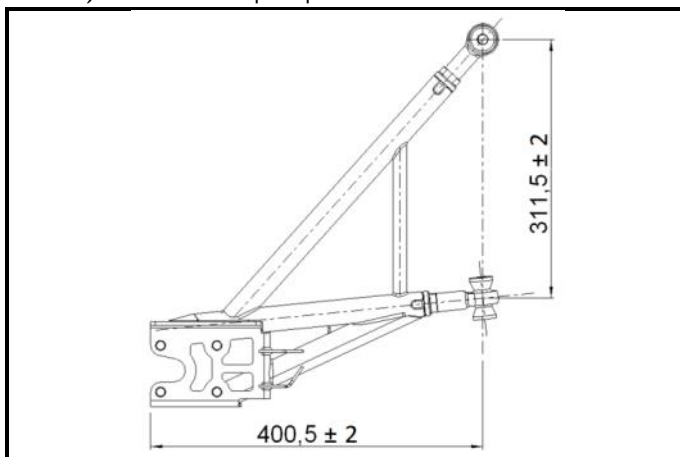
G7-2) Anti roll bar in location



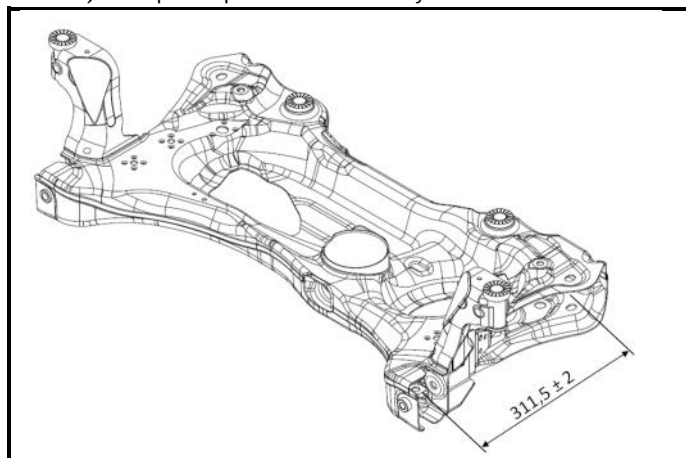
VII-E1) Operating principle of the wheel kinematics (sketch)



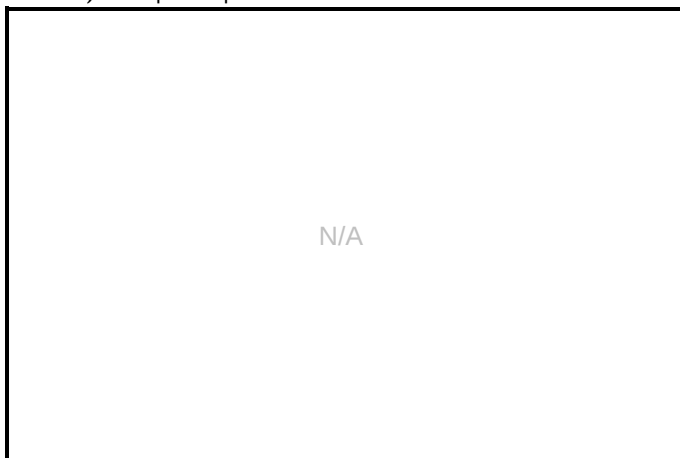
VII-E2) Positions of the pivot points on the wishbone/arm



VII-E3) Pivot points' positions on the body shell / Cross member



VII-E4) Pivot points' positions on hub carrier



REAR

Supports:

Number: **4**

Type: **Bolt**

Shock absorber:

Make & Type: **Bilstein**

Setting identification: -

H2-1) Subframe dismounted



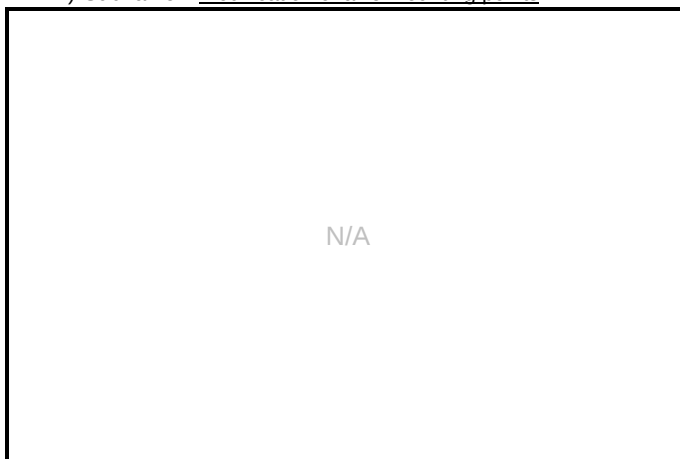
H2-2) Subframe in location



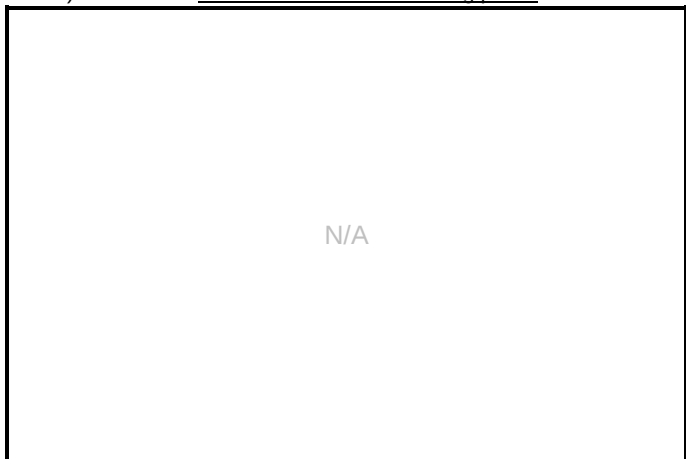
H2-3) Subframe – Modification of axle mounting points



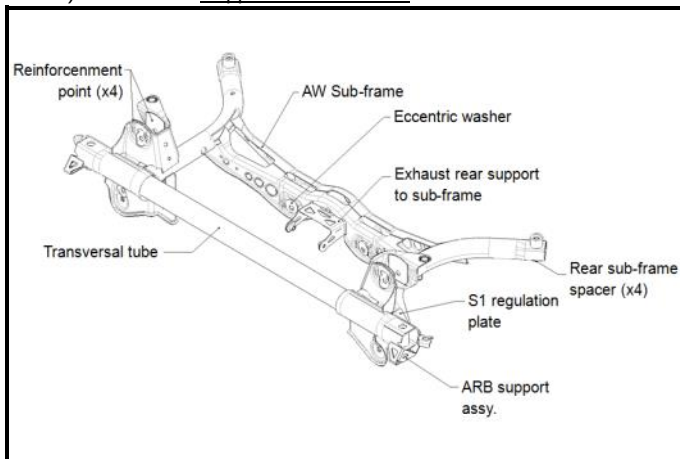
H2-4) Subframe – Modification of axle mounting points



H2-5) Subframe – Modification of axle mounting points



H2-6) Subframe – Supports' Modification



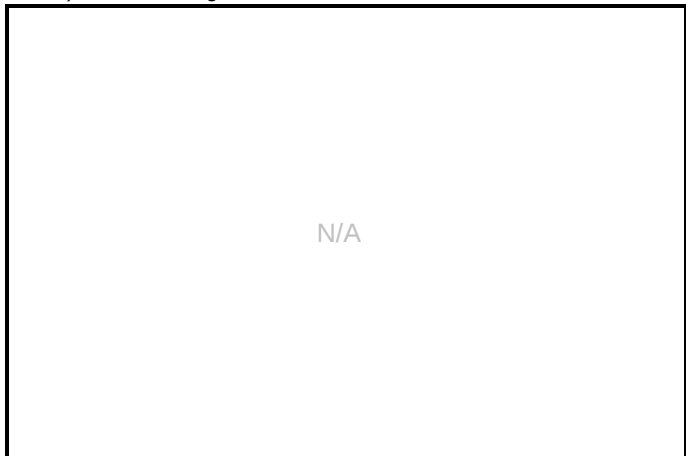
H3-1) Bare hub-carrier – dismounted



H3-2) Bare hub-carrier – dismounted



H3-3) Wheel bearing dismounted



H3-4) Wheel bearing mounted

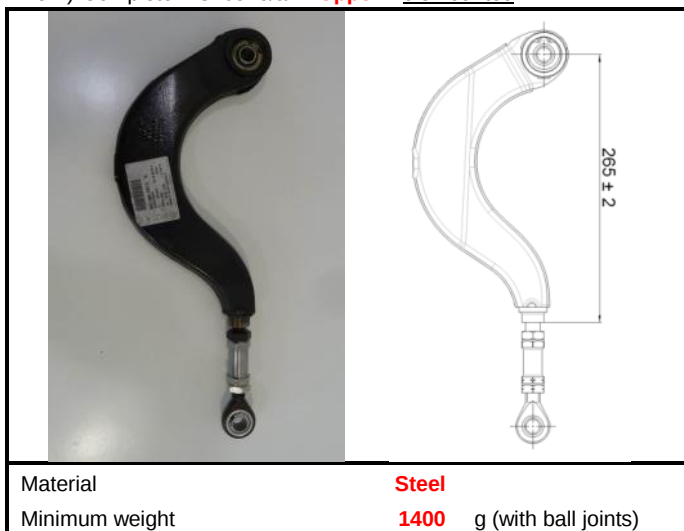
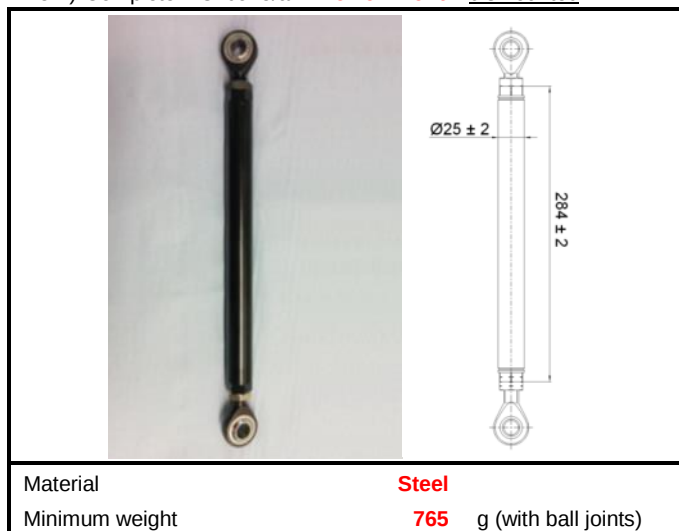
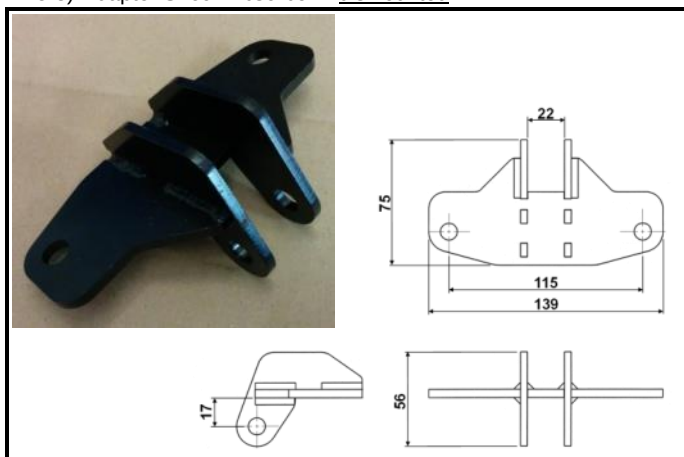
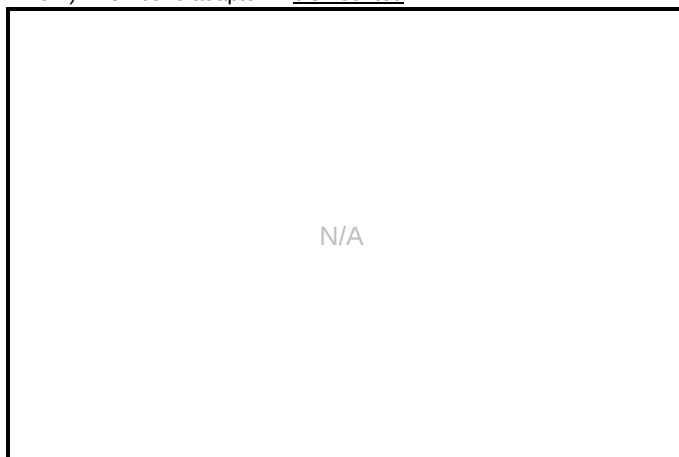


H3-5) Wheel hub dismounted

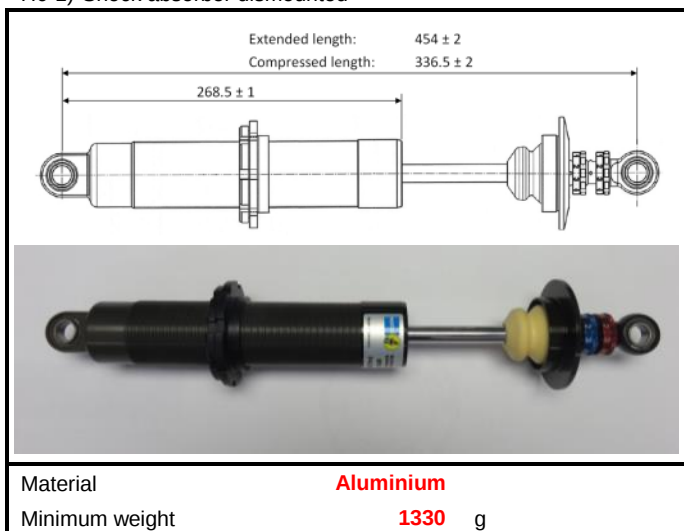


H3-6) Wheel hub mounted



H5-1) Complete wishbone/arm **Upper** – dismounted

H5-2) Complete wishbone/arm **Lower-Front** – dismounted

H5-3) Adapter Shock Absorber – dismounted

H5-4) Wish bone adapter – dismounted


H6-1) Shock absorber dismounted



H6-2) Shock absorber in location



H7-1) Anti roll bar dismounted

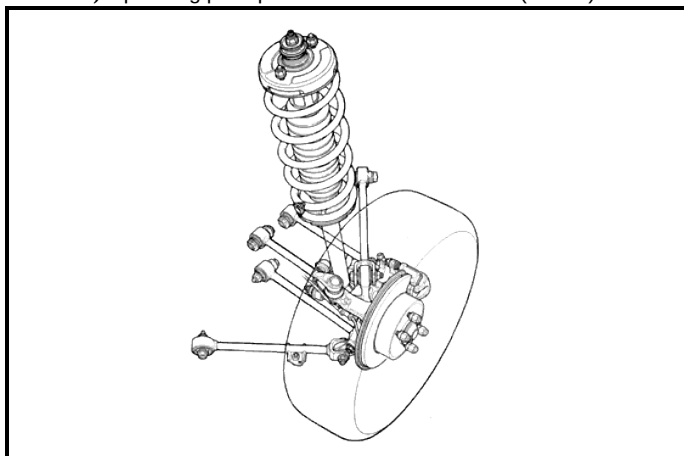


Size	Ø22x3	Ø22x4
Material	Steel	Steel
Minimum weight	2140 g	2580 g

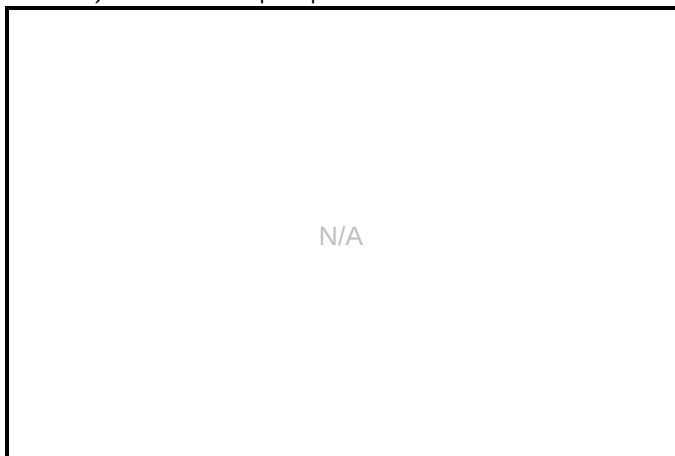
H7-2) Anti roll bar in location



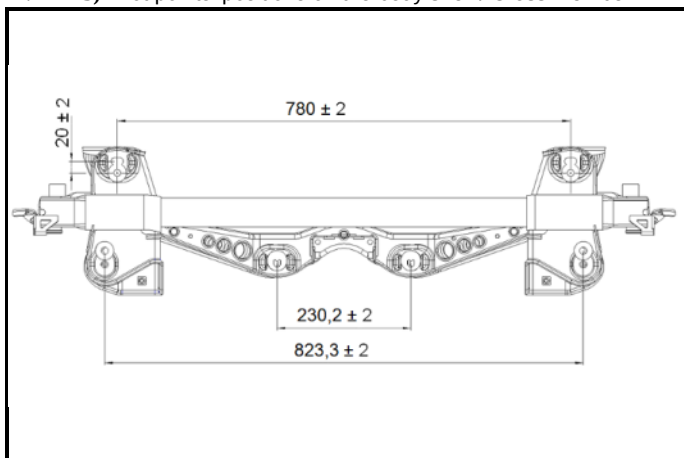
VIII-E1) Operating principle of the wheel kinematics (sketch)



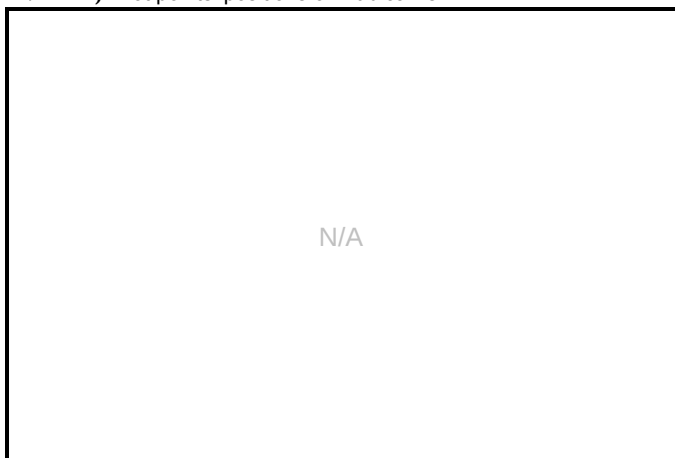
VIII-E2) Positions of the pivot points on the wishbone/arm



VIII-E3) Pivot points' positions on the body shell / Cross member



VIII-E4) Pivot points' positions on hub carrier



8. RUNNING GEAR

801. WHEELS

Make: **SEAT Sport**

Identification: **SEAT Sport**

Off set: **ET 36** mm ± 0.5 mm

Weight: **11.75** kg ± 0.5 kg

I1-1) Wheel dismounted $\frac{3}{4}$ from outside



I1-2) Wheel dismounted $\frac{3}{4}$ from inside



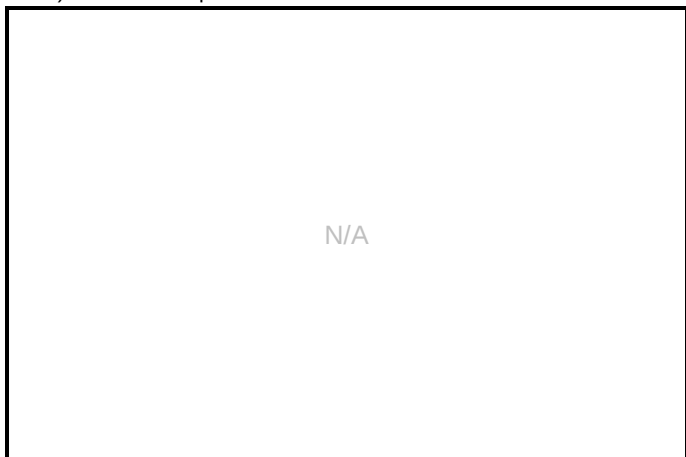
I1-3) Front wheel attachment dismounted



I1-4) Rear wheel attachment dismounted



I1-5) Front wheel spacer



I1-6) Rear wheel spacer



803. BRAKES

a) Braking system

b) Number of master cylinders: **2**

Make and type :

AP Racing

Location

Cockpit

c) Servo brakes:

No

c1) Make and type :

d) Braking regulator(s)

d1) Location(s)

Pedal box

d2) Type(s):

Mechanical

e) Rear brake pressure adjuster

e1) Location(s)

Rear line

e2) Type(s)

Mechanical 7 positions

e) Number of cylinders per wheel

e1) Bore

g1) Number of pads per wheel

g2) Number of callipers per wheel

g3) Calliper material

g4) Thickness of new disc

g5) External diameter of disc

FRONT	REAR
6	2
27 / 31.8 / 38.1 ± 0.1 mm	36 ± 0.1 mm
2	2
1	1
Aluminium	Aluminium / Steel
34 ± 1mm	10 ± 1mm
378 ± 1.5mm	272 ± 1.5 mm

h) Parking brake

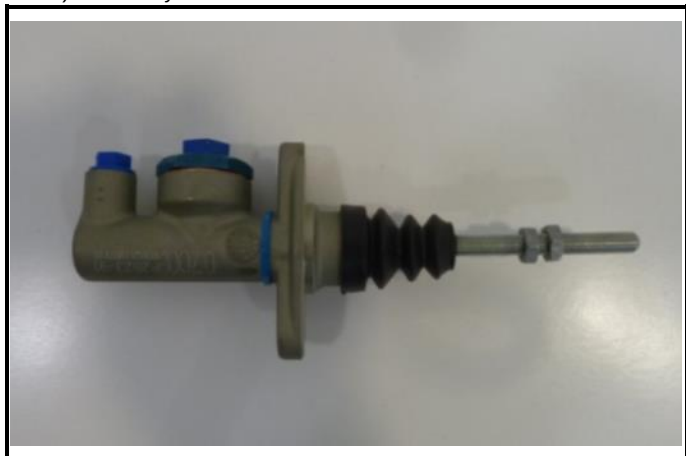
h1) Type

Gearbox

h2) Location of control

Gearbox lever

J4-1) Master cylinders dismantled



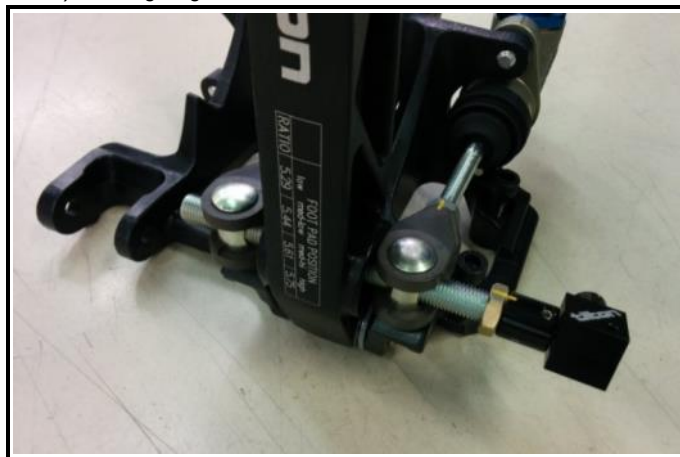
J4-2) Master cylinders in location



J5-1) Braking Regulator dismantled



J5-2) Braking Regulator in location



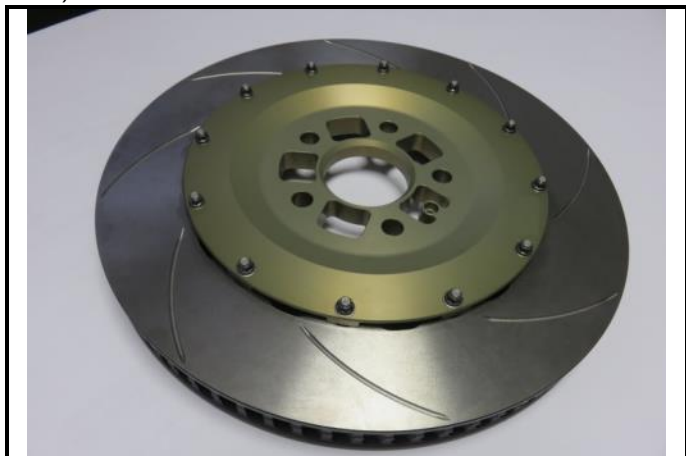
J6-1) Front brake calliper



J6-2) Rear brake calliper



J7-1) Front brake disc bell



J7-2) Rear brake disc bell



J8-1) Brake fluid tank(s) in location



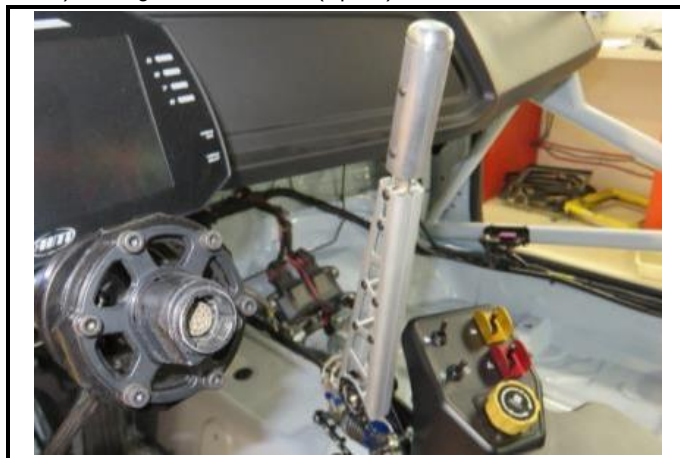
J9-1) Front brake cooling



J9-1) Parking brake dismounted (Option)



J9-2) Parking brake in location (Option)



J11-1) Rear brake pressure valve



J11-2) Rear brake pressure valve in location



J11-3) Rear brake pressure valve in location (Option)



J11-4) Rear brake pressure adjuster (Option)



J11-5) Rear brake pressure adjuster in location (Option)

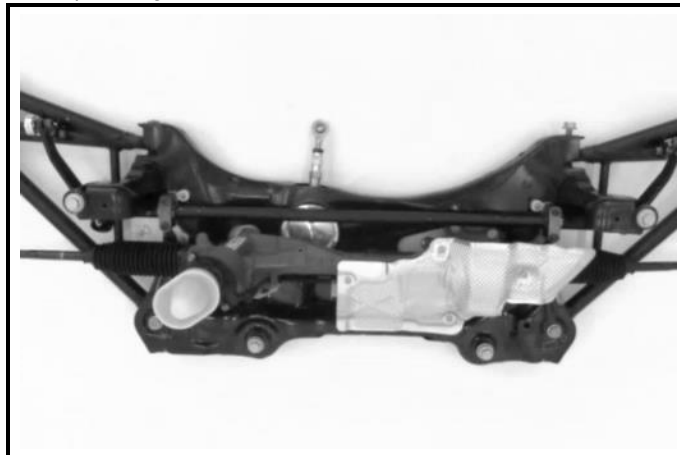


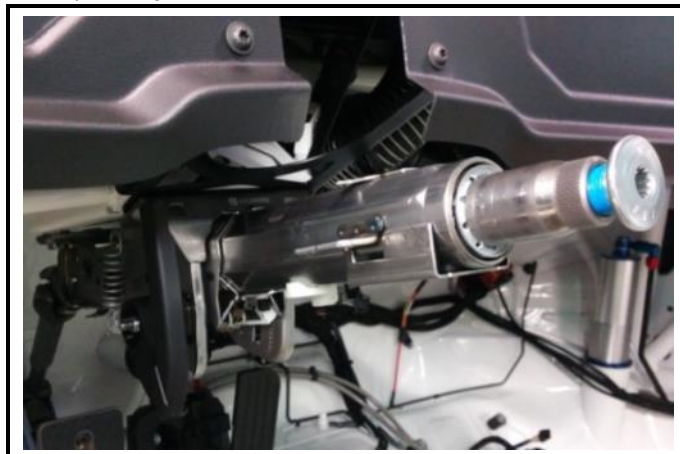
804. STEERING

Type: **RACK AND PINION**

Origin and identification: **OEM VW GROUP**

J11-1)Steering mechanism - dismounted

J11-2)Steering mechanism – in location

J11-3)Steering column - dismounted

J11-4)Steering column – in location


J12-1)Steering wheel



J12-2)Steering wheel release mechanism



9. BODYWORK - CHASSIS (BODYSHELL)

901. INTERIOR

Dash Board: **SEAT Sport**Material: **Plastic**Weight: **2150g** ±250g (with lateral covers)L1-1) Dashboard - dismounted

L1-2) Dashboard and centre console (steering wheel removed)



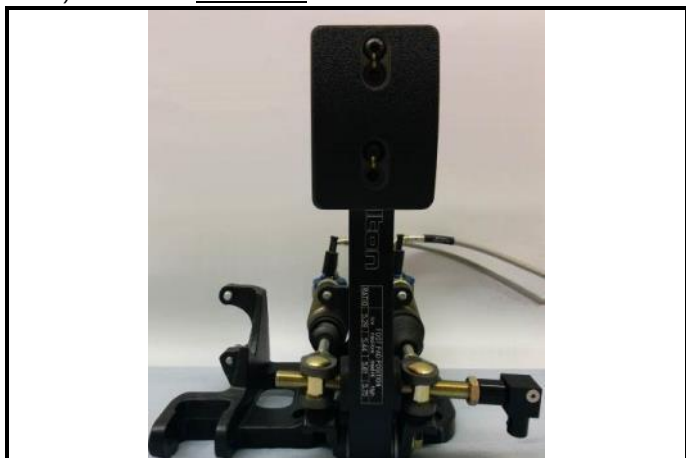
L1-3) Instruments



L1-4) Switches panel



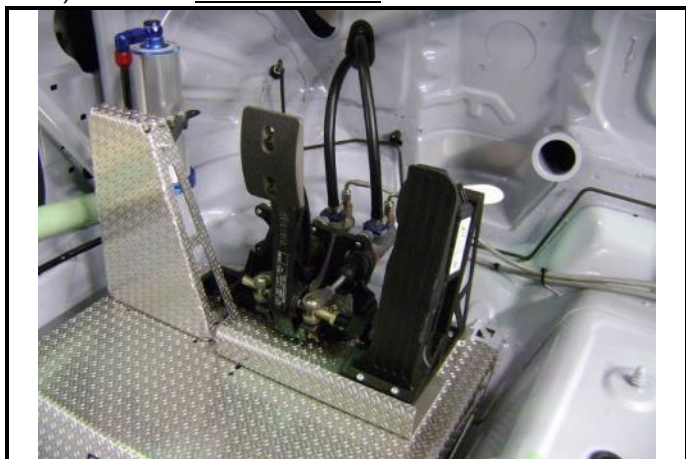
L2-1) Pedal box - dismounted seen from front



L2-2) Pedal box - dismounted seen from side



L2-3) Pedal box - mounted in location



XII-A2) Longitudinal position of the original back seat (Drawing)



Driver Seat (FIA Standard 8855-1999)

Make and Type: **OMP**

Weight: **10** kg ±0.5kg (without brackets)

L2-4) Driver Seat with brackets



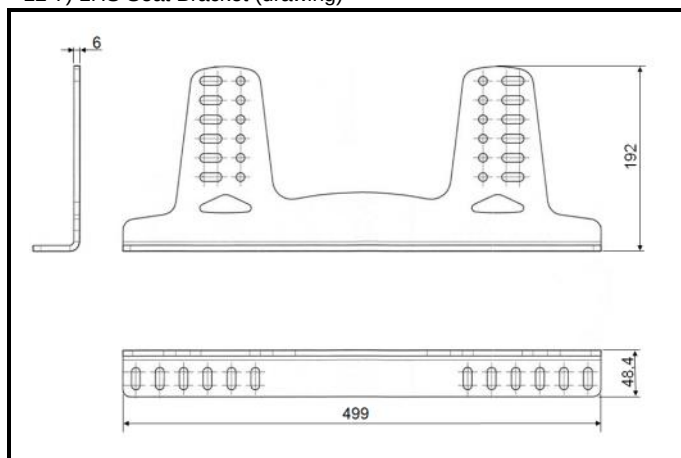
L2-5) Driver Seat installed in location



L2-6) LHS Seat Bracket



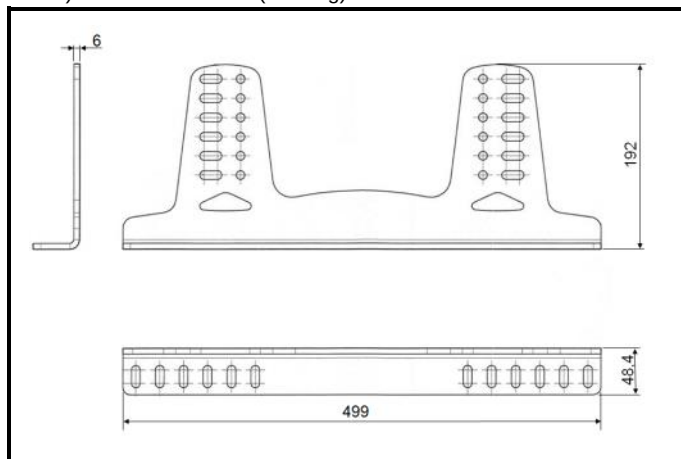
L2-7) LHS Seat Bracket (drawing)



L2-8) RHS Seat Bracket



L2-9) RHS Seat Bracket (drawing)



902. EXTERIOR

XIII-A1) MATERIALS OF BODYWORK PANELS

METALLIC MATERIALS

Identification	Part	Material	Weight
1	BONNET	STEEL	11500 g
2	LEFT / RIGHT FRONT DOOR	STEEL	14600 g
3	LEFT RIGHT REAR DOOR	STEEL	11400 g
4	ROOF	STEEL	- g
5	BOOT LID	STEEL	10600 g

PLASTIC MATERIALS

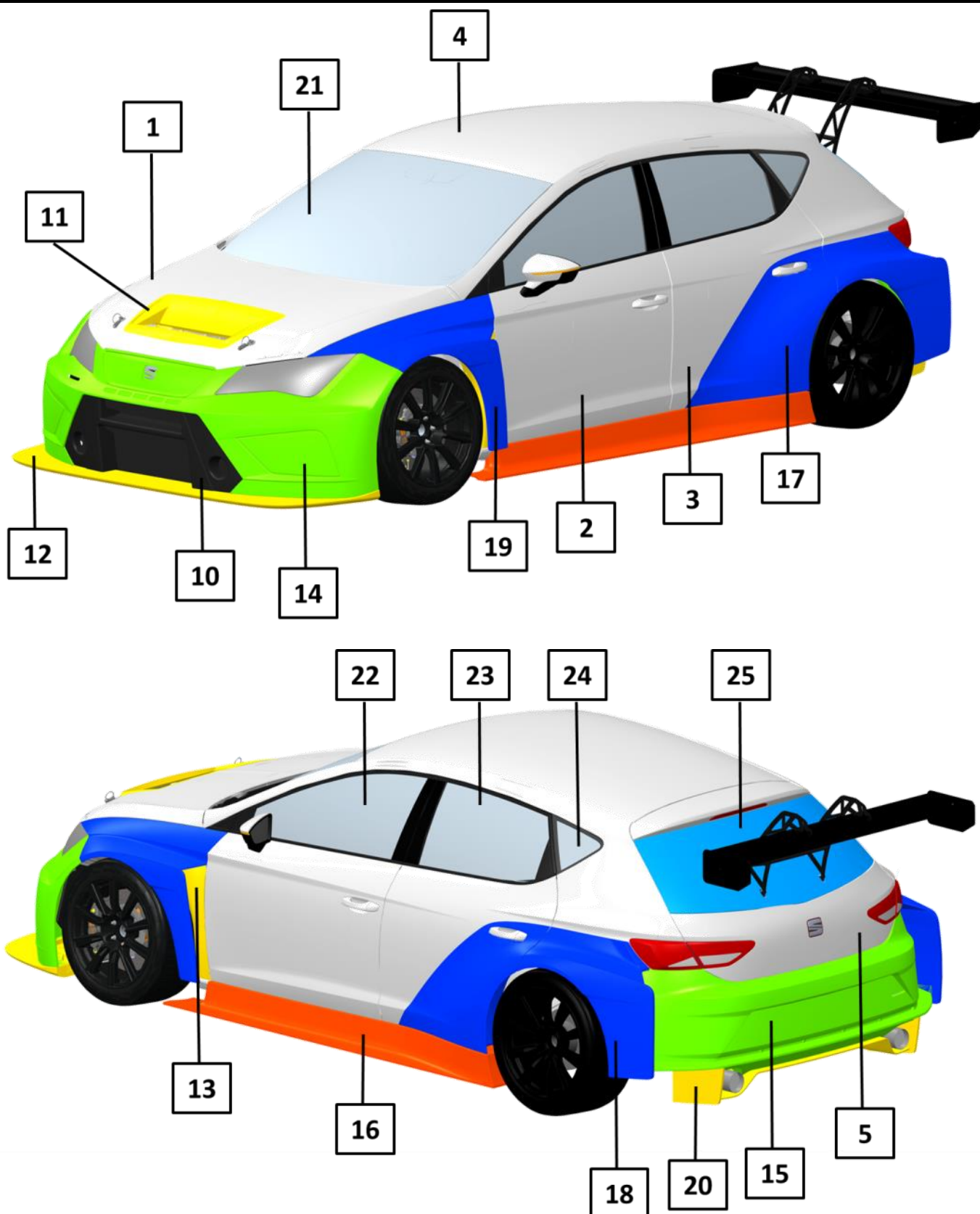
Identification	Part	Material	Weight
10	BUMPER AIR DUCT	PLASTIC	785 g
11	BONNET OPENING	CARBON	380 g
12	FRONT SPLITTER	CARBON	6255 g
13	FENDER AIR EXIT	CARBON	195 g
14	FRONT BUMPER	FIBERGLASS	3760 g
15	REAR BUMPER	FIBERGLASS	4650 g
16	LEFT /RIGHT SIDE TRIM	FIBERGLASS/CARBON/KEVLAR	1705 g
17	LEFT / RIGHT REAR DOOR EXTENSION	CARBON (painted)	790 g
18	LEFT / RIGHT REAR FENDER EXTENSION	CARBON (painted)	815 g
19	LEFT / RIGHT FRONT FENDER	CARBON (painted)	1050 g
20	DIFFUSER	CARBON	1370 g

GLAZING

Identification	Part	Material	Minimum thickness
21	WINDSCREEN	GLASS	4.46 ± 0.3 mm
21	WINDSCREEN	PLASTIC (OPTION)	5.85 ± 0.3 mm
22	LEFT / RIGHT FRONT DOOR WINDOW	GLASS	3.85 ± 0.2 mm
23	LEFT / RIGHT REAR DOOR WINDOW	GLASS	3.15 ± 0.2 mm
24	LEFT / RIGHT REAR TRIANGLE WINDOW	PLASTIC	3.15 ± 0.2 mm
25	REAR WINDOW	PLASTIC	3.85 ± 0.3 mm

For plastic windscreen and rear window Indicate the make and the incorporated heating (if any).

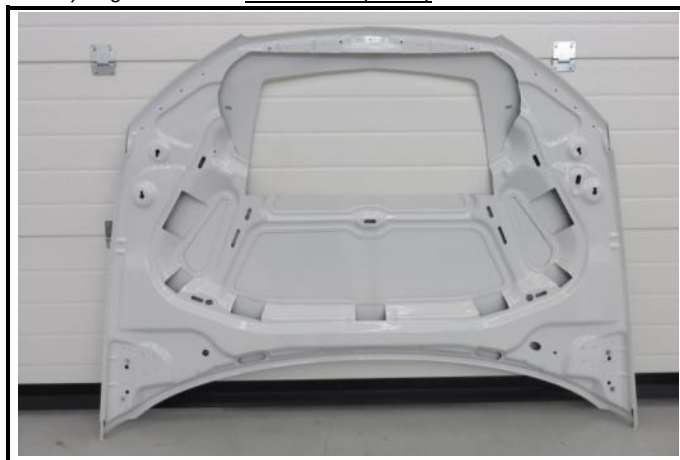
BODYWORK PANELS (DRAWING)



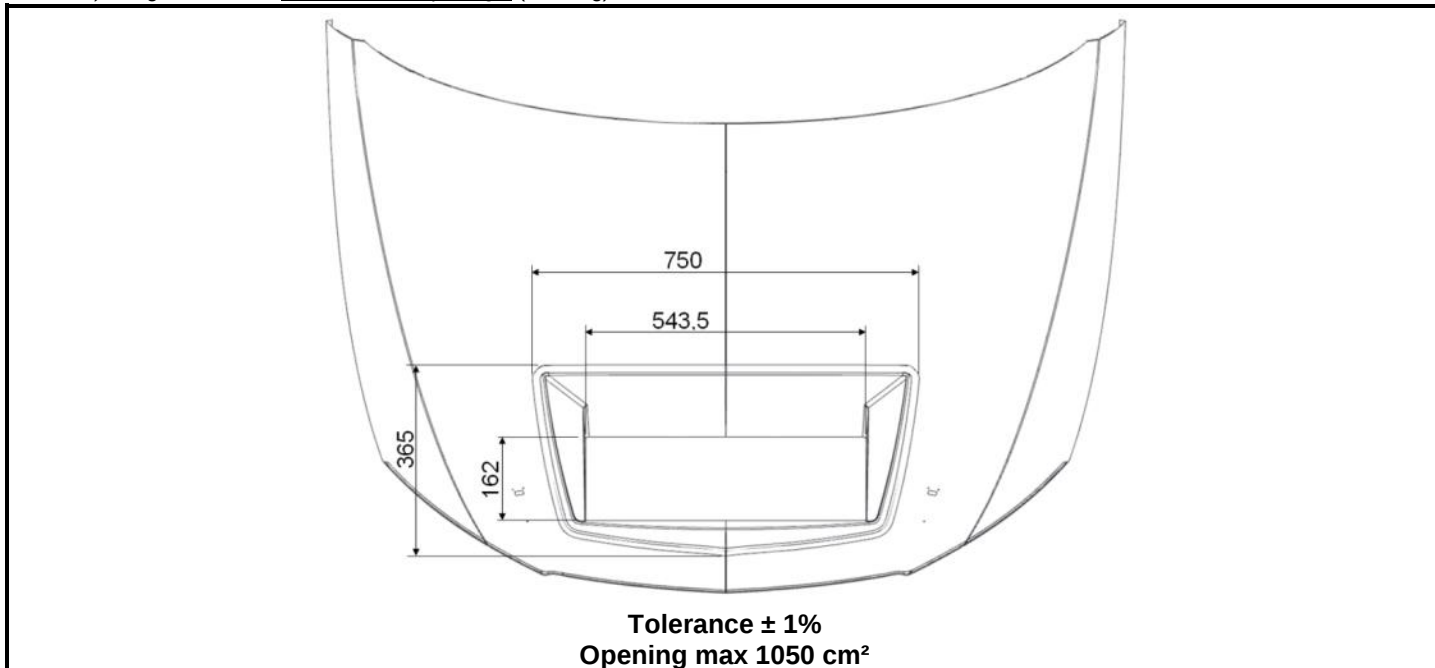
M4-1) Engine bonnet – dismounted (outside)



M4-2) Engine bonnet – dismounted (inside)



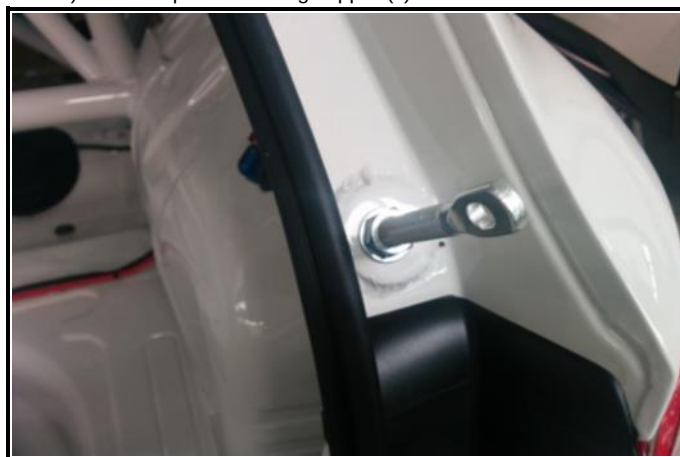
XIII-D1) Engine bonnet – dimensions of openings (Drawing)



M5-1) Engine bonnet open - retaining support(s)



M5-2) Boot lid open - retaining support(s)



M5-3) Front fender dismantled



M5-4) Front fender in location



M6-1) Rear fender - dismantled



M6-2) Rear fender in location



M7-1) Bare front door – inner face



M7-2) Front door inner face



M8-1) Bare rear door – inner face



M8-2) Rear door – modification of wheel arch



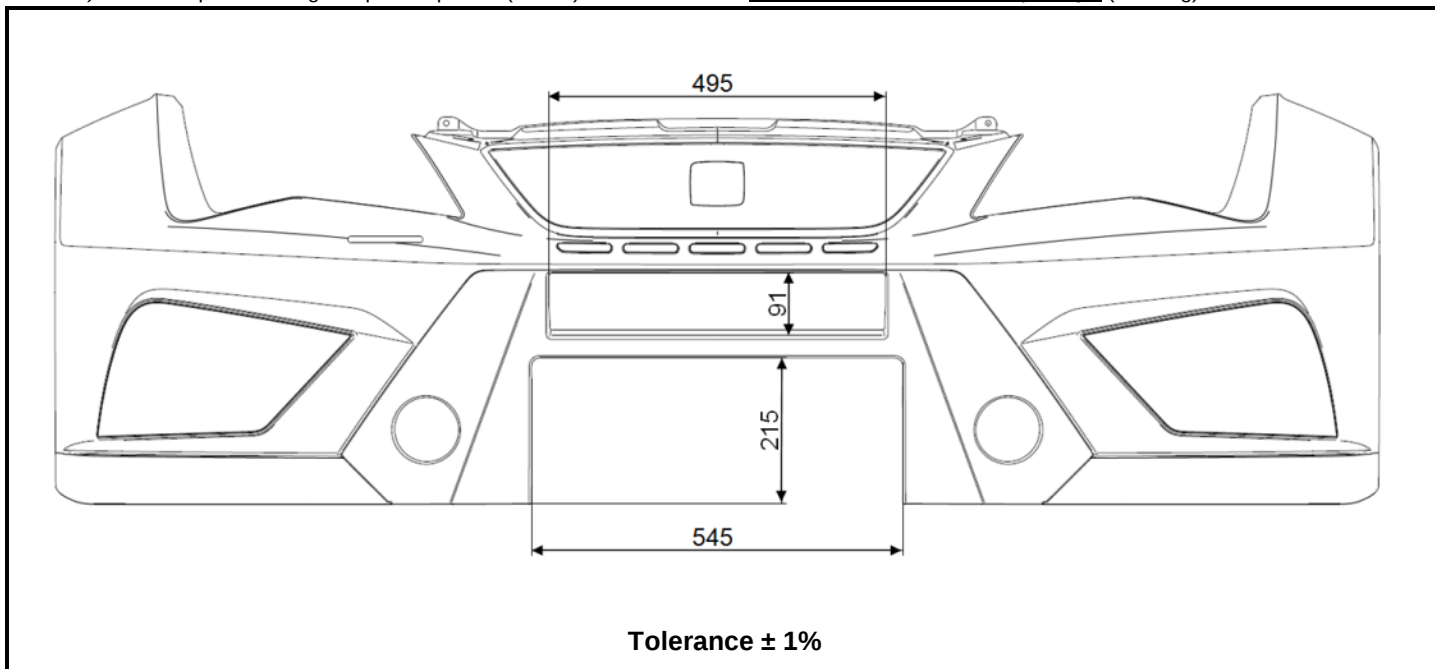
M9-1) Front bumper - dismounted outer side



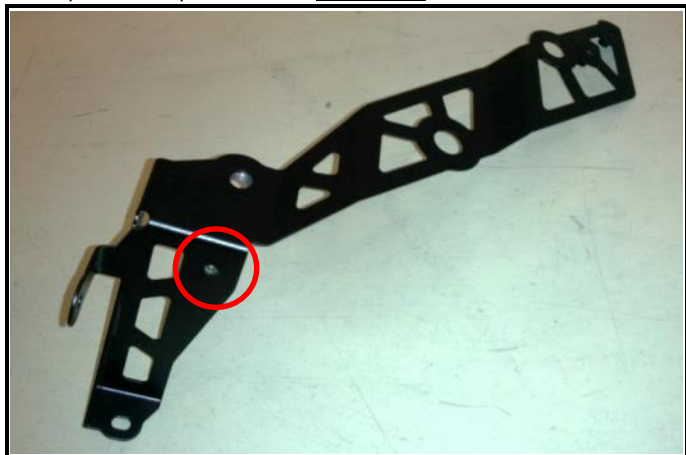
M9-2) Front bumper - dismounted inner side



XIII-11) Front bumper including component panels (if it fits) seen from front - dimensions and function of openings. (Drawing)



M9-3) Front bumper brackets - dismounted



M9-4) Front bumper brackets – in location



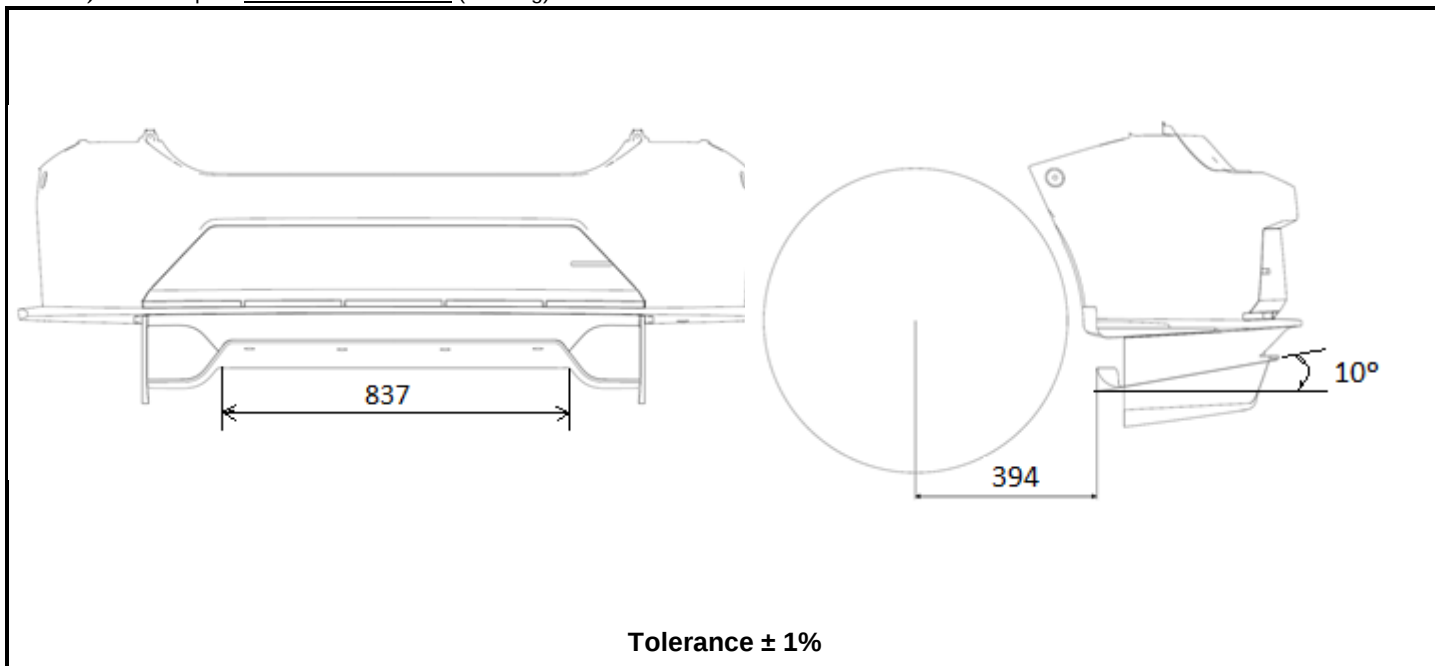
M11-1) Rear bumper - dismounted outer side (¾ from below)

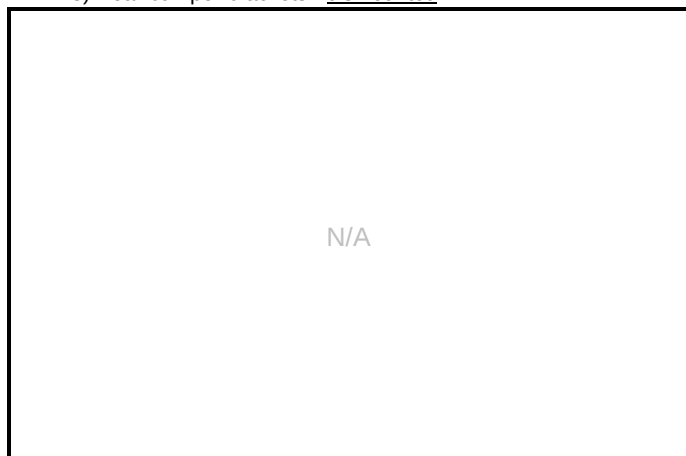
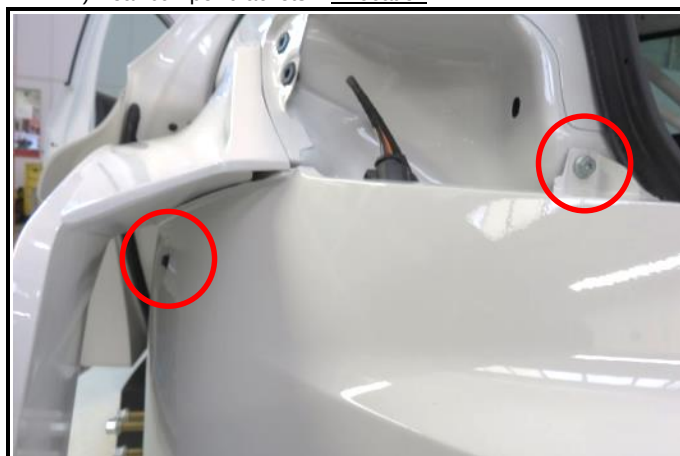


M11-2) Rear bumper - dismounted inner side



XIII-11) Rear bumper - dimensions of diffuser (Drawing)

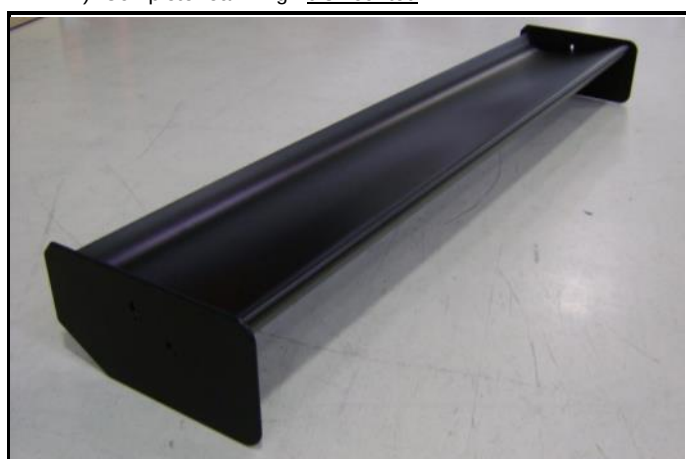


M11-3) Rear bumper brackets - dismountedM11-4) Rear bumper brackets – in location

M12-1) Front wheel arch liner



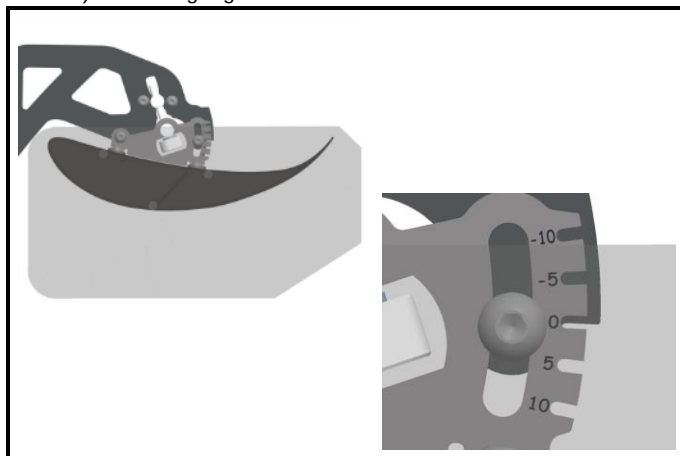
M12-2) Rear wheel arch liner

M14-1) Complete rear wing - dismountedM14-2) Complete rear wing - dismounted

M14-3) Complete rear wing – mounted on car



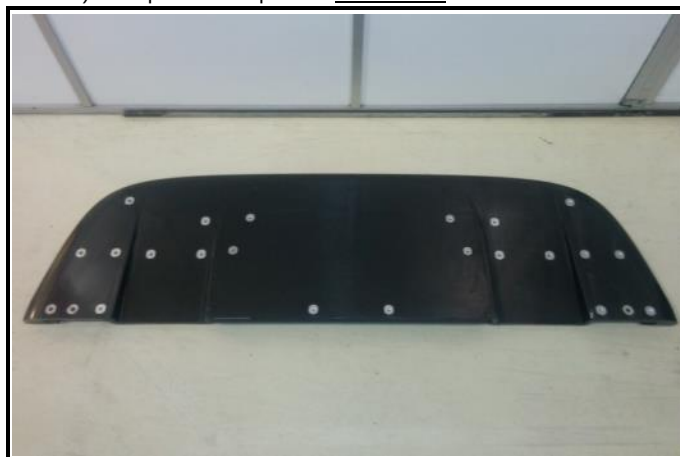
M14-4) Rear wing regulation



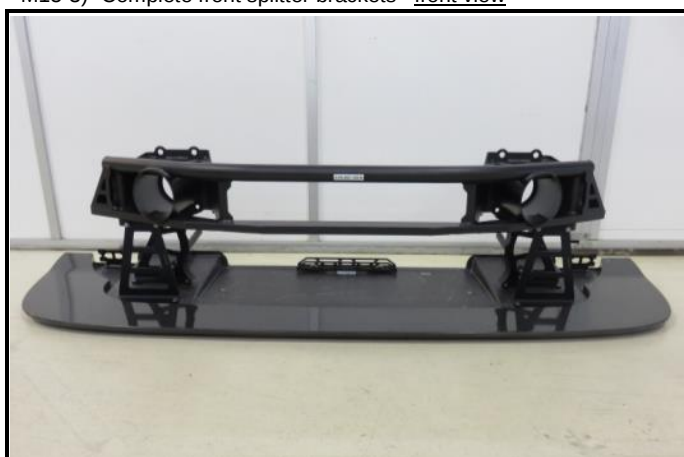
M15-1) Complete front splitter – dismounted



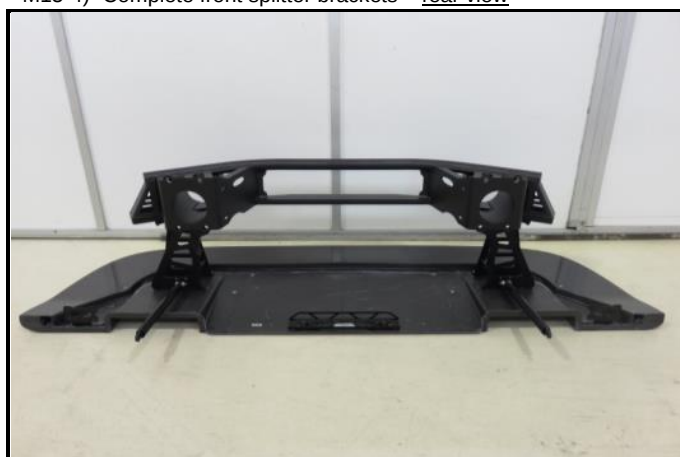
M15-2) Complete front splitter – dismounted



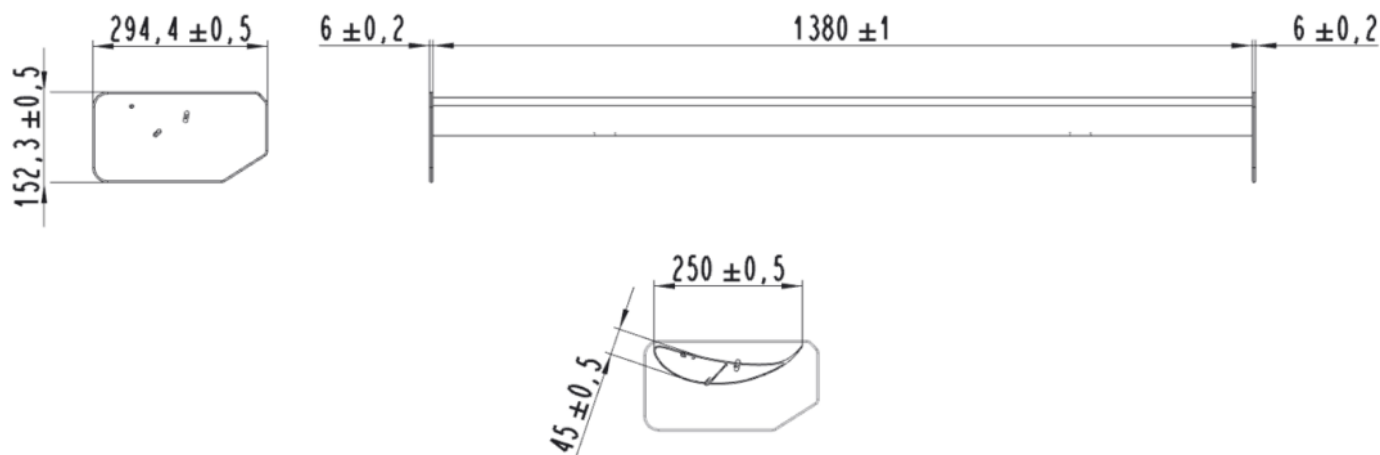
M15-3) Complete front splitter brackets– front view



M15-4) Complete front splitter brackets – rear view



XIII-N1) COMPLETE REAR WING DISMOUNTED (DRAWING)



XIII-N4) AERO PARTS MOUNTED ON CAR SEEN FROM THE SIDE (WITH LONGITUDINAL POSITION) (Drawing)



M16-1) LHS Front door with driver cooling air inlet (option)

N/A

M16-2) RHS Front door with driver cooling air inlet (option)

N/A

903. CHASSIS (BODYSHELL)

Please indicate the reinforcements, modifications for air jack installation and removal of unused supports.

N1-1) Bare bodyshell – General view



N1-2) Bare bodyshell – General view



N1-3) Bare bodyshell – Engine compartment



N1-4) Bare bodyshell – Cockpit seen from windscreen opening



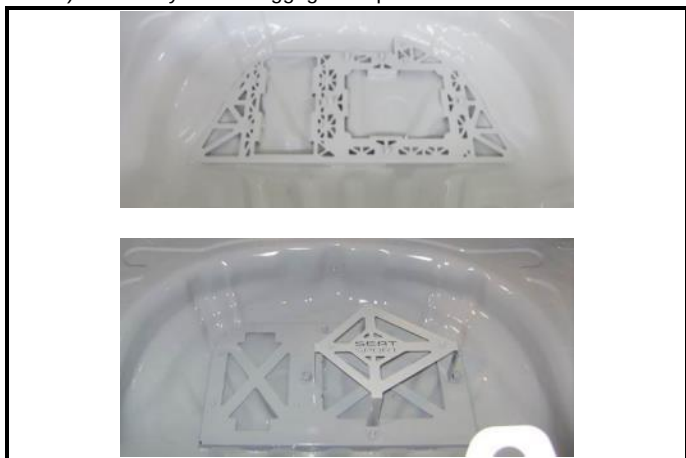
N1-5) Bare bodyshell – Cockpit seen from rear window opening



N1-6) Bare bodyshell – Roof seen from cockpit



N1-7) Bare bodyshell – Luggage compartment



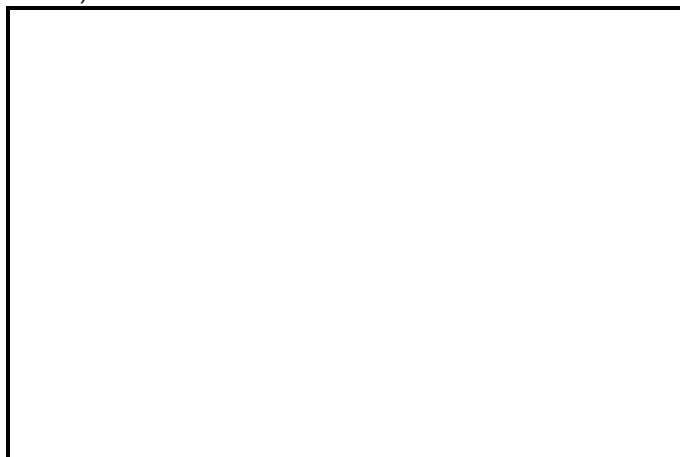
N1-8) Bare bodyshell – Seen from underneath



N1-9) Body shell identification plate



N1-10)

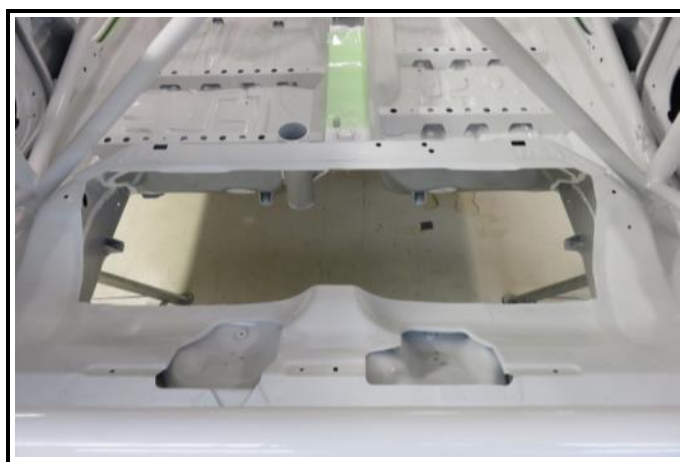


MODIFICATIONS OF CHASSIS (BODY SHELL)

N2-1) Interior view on modifications for pedal box, steering column and air jacks



N2-2) Interior view on modifications for fuel cell installation



N2-3) Front wheel arch LHS



N2-4) Front wheel arch RHS



N2-5) Rear wheel arch LHS



N2-6) Rear wheel arch RHS



N2-7) Engine bulk head



N2-8) McPherson turret



If the body shell has other WCS authorized modifications add supplementary pictures.

10. SAFETY DEVICES

1001. SAFETY CAGE

a) Safety cage number: **VSSMK35F4_SSP** Producer: **SEAT Sport** FIA, ASN Certificate no: **HES4441013**

1002. SAFETY SEAT MONTINGS ON BODYSHELL

S1-1) Driver Seat mountings

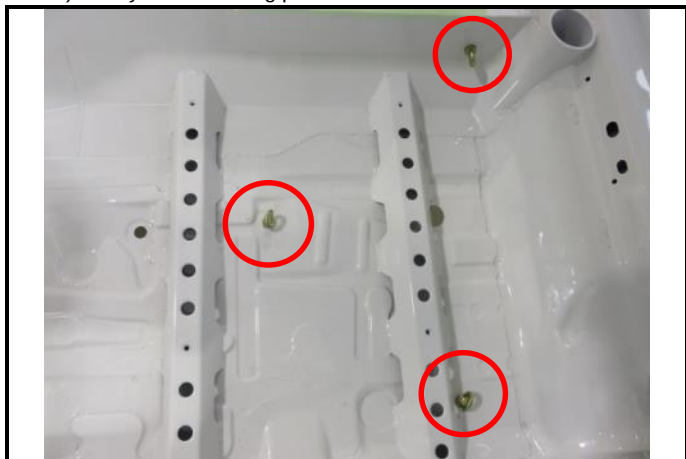


S1-2) Driver Seat mountings



1003. SAFETY BELT MONTING POINTS

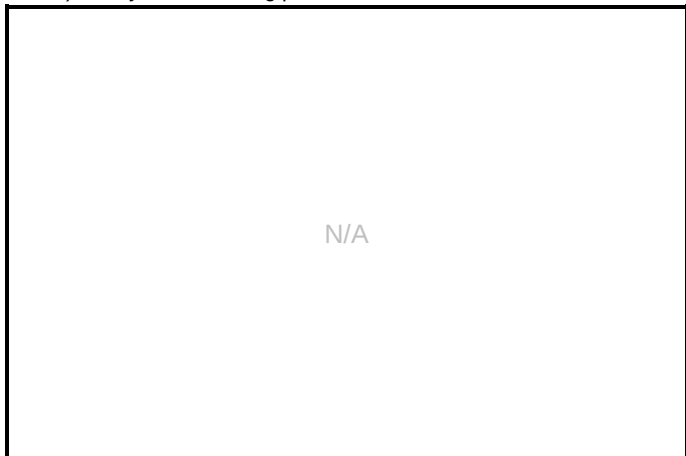
S2-1) Safety Belt mounting points



S2-2) Safety Belt mounting points



S2-3) Safety Belt mounting points



N/A

S2-4) Safety Belt mounting points



N/A

1004. FUEL TANK SAFETY EQUIPMEMNT

Rollover valve:

Make: **SOBEK Z-V 9009 0028**

Approval:.....

Overpressure valve:

Make: **SOBEK Z-V 9009 0028**

Approval:

Filler neck Non-return valve:

Make: -

Approval:

S3-1) Rollover & Overpressure valves



S3-2) Filler neck Non-return valve



1005. FIRE EXTINGUISHER

Make: **OMP**

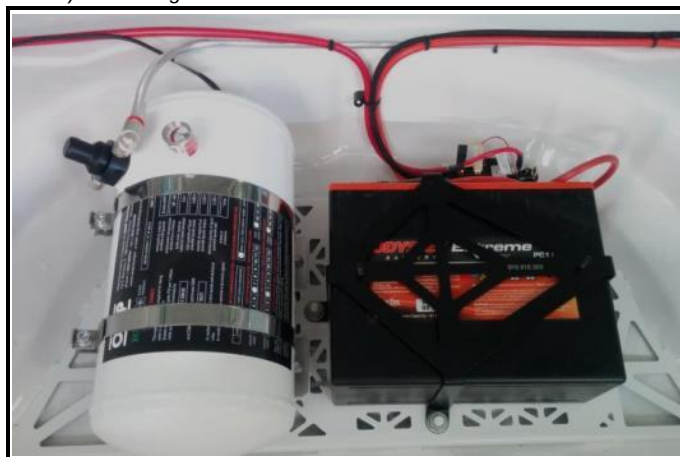
Approval: **EX 008.00**

Weight: **5850** ±250g

S4-1) Fire extinguisher dismantled



S4-2) Fire extinguisher in location



1006. OTHER SAFETY DEVICES

S5-1) Protective window net dismounted



S5-2) Protective window net with fixings in location



S5-3) Front Towing eye dismounted



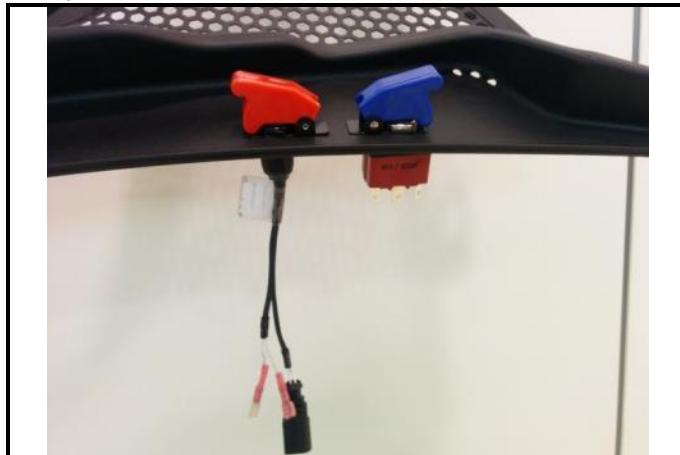
S5-4) Rear Towing eye dismounted



S5-5) Rain Light (FIA List: Part ref.: **Std. fog lights + 3rd brake light**)



S5-6) External General Circuit Breaker dismounted





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Certification N°

TCN2 – C – 002

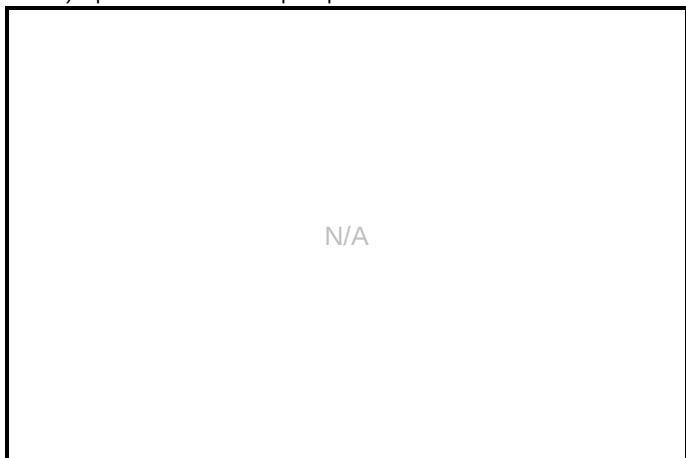
Make: **SEAT Sport**

Model: **SEAT Leon Cup Racer V2 / DSG**

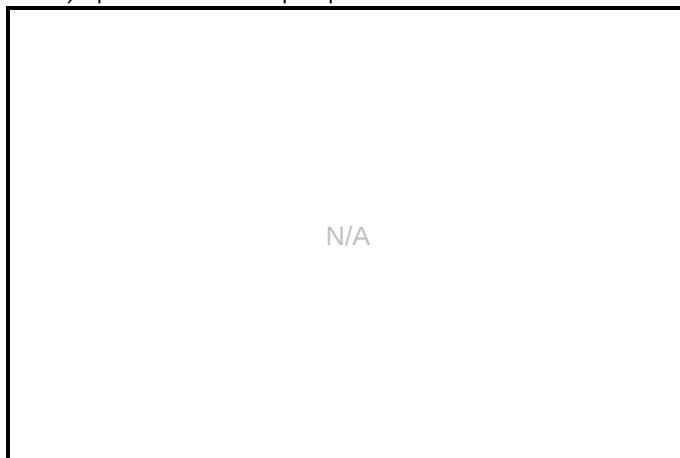


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DE AUTOMOVILISMO Extension N°
Departamento Técnico
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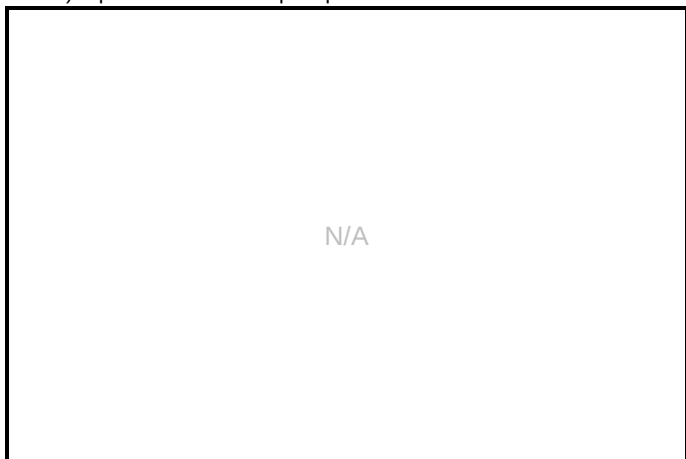
S5-7) Optional front side impact panel dismantled



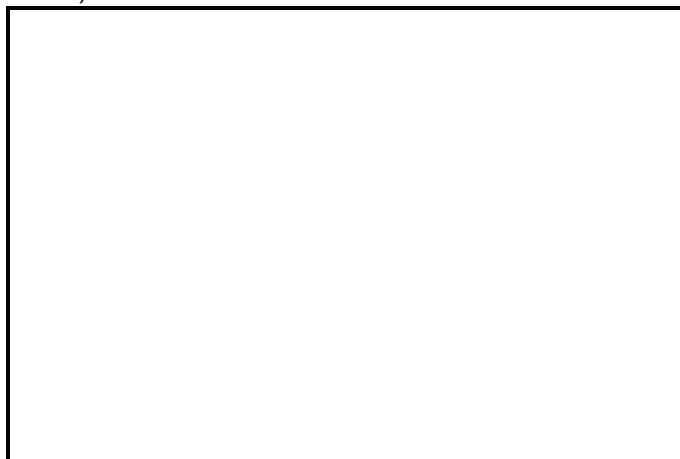
S5-8) Optional front side impact panel in location



S5-9) Optional rear side impact panel dismantled



S5-10)





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TCN2 – C – 002

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REAL FEDERACIÓN ESPAÑOLA
DE AUTOMOVILISMO Extension N°
Departamento Técnico
Technical Department

COMPLEMENTARY INFORMATION