

MANTHEY - RACING



Technical Manual

Porsche Cayman GT4 Clubsport MR (981) MJ 2016

Version_V1 2017/06

Foreword

This document will give you the opportunity to look up data, adjustment values and operating guidelines and facilitate maintenance and/or repair of the vehicle.

It should be made clear that this manual should only be used to facilitate the operation of your Cayman GT4 Clubsport MR.

It does not replace the separate installation instructions.

You can request these from Manthey-Racing at:

Phone:: +49 (0) 2691 9338 807

E-Mail: gt4support@manthey-racing.de

We wish you many sporting successes with your Cayman GT4 Clubsport MR.

Your Customer Sports

Manthey-Racing GmbH

Competition Vehicle Cayman GT4 Clubsport MR Model 2016

The workmanship of this vehicle is specifically designed for participation in competitions on circular tracks.

Manthey Racing does not assume any of the responsibility for conformity with regulations.

The vehicle is not authorised for operation on public roads and does not comply with the German Road Traffic Registration Ordinance.

Illustrations, descriptions and schematic drawings are solely for the purpose of presenting the text.

We assume no liability for the completeness and consistency of the content with the respective valid sports laws.

As a result of constant optimisation of our products there are regular updates of this manual.

Please note that only the most current version of the manual is valid.

Please always use this Technical Manual in connection with the technical manual of the Cayman GT4 Clubsport by Porsche AG, as many details regarding upgrade options from the Manthey-Racing programme are already explained there in detail in the basic version.

Contact

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Warning and safety instructions

The classification of the warning and safety information is made using the respective signal word (Danger, Warning, Caution) in addition to the warning icon.

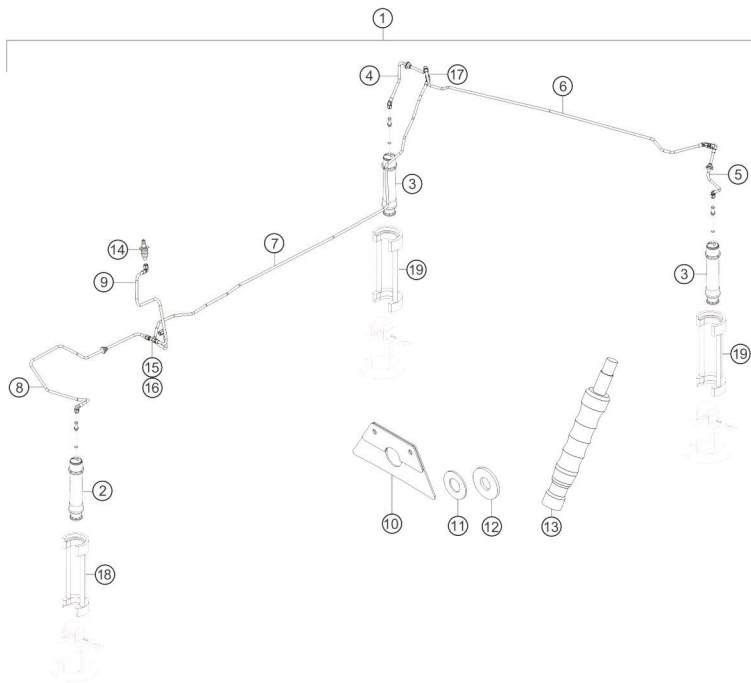
 **DANGER** Warning of death or serious bodily injuries, which will occur in the event of non-compliance.

 **WARNING** Warning of death or serious bodily injuries, which may occur in the event of non-compliance.

 **ATTENTION** Warning of minor bodily injuries in the event of non-compliance..

NOTE Warning of property damage in the event of non-compliance.

1.0 Air lift system



Pos.	Material description	M	pcs.	Part Number
1	Air lift system assy. + Mounting		1	MTH583004
2	Air lift front		1	9915831138A
3	Air lift rear		2	9915831118A
4	Pipe on lift, rear right		1	MTH583250
5	Pipe on lift, rear left		1	MTH583251
6	Pipe, rear centre		1	MTH583252
7	Pipe, side		1	MTH583253
8	Pipe on lift, front		1	MTH583254
9	Pipe on valve		1	MTH583255
10	bracket main valve		1	MTH583820
11	Support fitting - (14,5x30x1,5) - Board wall feed-through		4	MTH583901
12	Support T-piece (14,5x36,5x3,5)		2	MTH583902
13	Air lance		1	9915831018A
14	Connection valve		1	9915831038A
15	T-piece board wall JIC		1	9915835638A

Pos.	Material description	M	pc s.	Part Number
16	Lock nut T-piece		1	9915835358A
17	T-piece with nut on side		1	9915835618A
18	Air lift support for LL-31/LL-32 for Ø50mm		1	MTH583050
19	Air lift support for LL-21/-22/-23/- 24/-25, 230mm		2	MTH583051
n.m.	Sticker Set		1	MTH583201
n.m.	Sticker Set		1	MTH583202
n.m.	Grommet 7x40x0.8		2	On request
n.m.	Steer tube threefold		5	On request
n.m.	Screw main line		2	On request
n.m.	Strap		2	On request
n.m.	Aluminium seal ring		3	On request
n.m.	Steer tube, single		6	On request
n.m.	Felt		1	On request
n.m.	Nut		1	On request
n.m.	Tucker stud		5	On request

The air lift system comes from the Krontec Company.

The vehicle has three pneumatic jacks:

One in the centre of the front section (Figure 1.1) and two in the area of the C pillars (Figure 1.2), fixed to the body.

The jacks have no height adjustment and do not need to be adjusted to a change in the vehicle height.

The valve for the compressed air supply is located on the passenger side in the area of the windscreen (Figure 1.3).

The maximum working pressure is 35 bar.

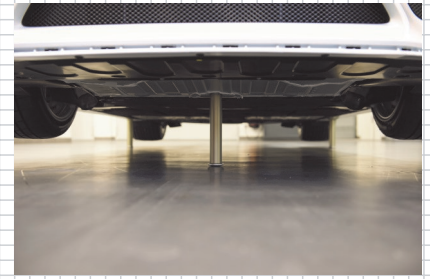


Figure 1.1 A jack in the centre of the front of the car

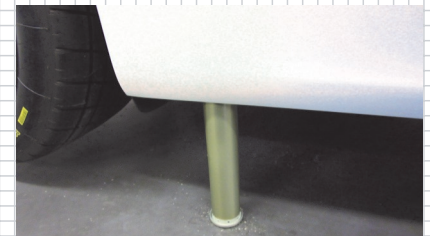


Figure 1.2 Two jacks in the area of the C pillar



Figure 1.3 Valve for the compressed air supply.

1.1 Important information

⚠ WARNING

Never work on the vehicle raised by the air lift system without safeguarding it against unintentional release.

⚠ WARNING

The operator of the lifting system must conduct a check of the surroundings prior to application to ensure that there are no persons in the danger zone.

NOTE

Never open the air lift: The system is under pressure even in its retracted state! (Figure 1.4)

NOTE

In order to avoid damage to the end stops of the air lift cylinder never let the air lift extend freely (e.g. without vehicle load). (Figure 1.5)

⚠ WARNING

High risk of injury! The air lift jack is located directly on the edge of the vehicle. (Figure 1.6)

1.2 Additional Information

NOTE

During operation the drain valve **MUST** be open (pulled out) because it could otherwise lead to unintentional extending of the jack during warming up of the system

NOTE

In order to slowly lower a raised vehicle separate venting is possible in the drain valve using a tappet. The bleeding of the compressed air system can be controlled by exerting pressure on this tappet.

NOTE

If a loose or incorrectly fastened air lift is detected this must be replaced immediately because internal damage cannot be ruled out.

NOTE

For additional safety provisions please refer to the manufacturer's product description.

Manufacturer contact:

KRONTEC
Maschinenbau GmbH
 Pommernstraße 33
 93073 Neutraubling
 Germany
 www.krontec.de



Figure 1.4 Never open the air lift



Figure 1.5 Never let the air lift extend freely



Figure 1.6 High risk of injury

1.3 Warnings for the air lift system

Due to the harmonisation of the safety instructions with international provisions the warnings for the air lift system were adjusted (Figure 1.7).

The old warnings are to be replaced by the new warnings (Figure 1.7). The validity of the old warnings, however, remains unchanged. The warnings **MUST** be affixed to the vehicle in the specified locations (Figure 1.8 and Figure 1.9)

⚠ WARNING For the correct positioning of the warnings please refer to the Manthey-Racing GmbH installation instructions.

1.4 Maintenance Air lift system

Never use cleaning agents containing mineral oil.

Manthey-Racing recommends an overhaul by the Krontec company after two years or 2,000 strokes.

Clean the air lift jack only with silicone grease or silicone spray. Inspect the air lift regularly for mechanical damage.

The tightening torque of the slotted nut (tight fit of the air lift) must be checked within the framework of a normal vehicle check.

Tightening torque slotted nut back 40 +5Nm.
Tightening torque slotted nut front 40 +5Nm.

Other maintenance work may only be carried out by the manufacturer!

1.5 Accessories Air lift system (Kit-No. MTH012050)

This package consists of a compressed air bottle, a trolley and a 3m hose incl. air lance and fitting. (Figure 1.10)

This kit is not included in the scope of delivery and must be ordered separately. The racing car can be lifted by connecting to the already installed air lift system using the compressed air valve.

⚠ ATTENTION Observe system pressure (max. 35 bar)
Bottle pressure (max. 200bar).
The bottle is subject to the German TÜV Guidelines (German Association for Technical Inspection) and must be checked every year. Always safely park the trolley and secure it against falling over. Defective or damaged parts must be replaced immediately, system is under pressure! Please also observe the safety information of the air lift system!



Figure 1.7 Warning Air Lift System



Figure 1.8 Warning Front lid



Figure 1.9 Warning rear side window

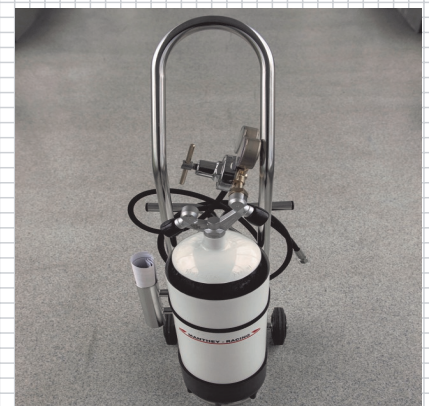
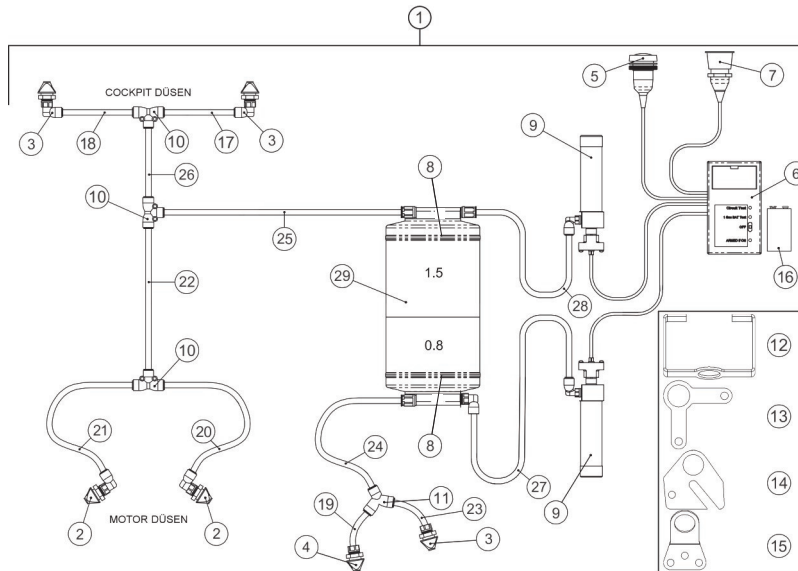


Figure 1.10 Accessories Air Lift System

**Porsche Cayman GT4
Clubsport MR (981)
MJ 2016**

2.0 Fire Extinguishing System



Pos.	Material description	M	Pc s.	Part Number
1	Additional option extinguishing system		1	MTH722005
2	Nozzle engine compartment		2	MTH722420
3	Nozzle interior		3	MTH722417
4	Nozzle technical room		1	MTH722419
5	External fire extinguisher button		1	MTH722429
6	Trigger unit with Velcro		1	MTH722315
7	Internal fire extinguisher button		1	MTH722423
8	Fire extinguishing system clamp		2	MTH722123
9	Pressure accumulator		2	MTH722525
10	T-piece fire extinguisher		3	MTH722751
11	Y-piece fire extinguisher		1	MTH722753
12	Holder, extinguishing nozzle		1	MTH722871
13	Nozzle holder, left footwell		1	MTH722821
14	Nozzle holder, right footwell		1	MTH722820
15	Nozzle holder technical room		1	MTH722822
16	Battery 9V		1	MTH722815
17	L2 - 330 - Footwell, right		1	MTH722250
18	L1 - 630 - Footwell, left		1	MTH722251
19	L3 - 1400 - Technical room		1	MTH722252
20	L4 - 760 - Engine compartment, left		1	MTH722253
21	L5 - 195 - Engine compartment, right		1	MTH722254
22	L6 - 2170 - Engine compartment supply		1	MTH722255

Pos.	Material description	M	Pc s.	Part Number
23	L7 - 1990 - Käfigdüse		1	MTH722256
24	L8 - 320 - Extinguishing canister / Y		1	MTH722257
25	L9 - 470 - Extinguishing canister / T		1	MTH722258
26	L10 - 650 - Footwell nozzles		1	MTH722259
27	L11 - 120 - Extinguishing canister 0.8kg / Capsule		1	MTH722260
28	L12 - 220 - Löschflasche 1,5kg / Kapsel		1	MTH722261
29	Extinguishing canister		1	MTH722115
n.m.	Protective frame		1	MTH722425
n.m.	Cable harness		1	MTH722210
n.m.	Sticker set internal + external Fire		1	MTH722151
n.m.	Cowl		1	MTH555563
n.m.	Tucker stud		5	On request
n.m.	Cable holder		2	On request
n.m.	Hose clamp		3	On request
n.m.	Cable tie clamp		9	On request
n.m.	Cable holder twofold		2	On request
n.m.	Cable tie clip		4	On request
n.m.	Clips large / small		1	On request
n.m.	Felt 50mm wide		1	On request
n.m.	Cable tie medium		20	On request
n.m.	Cable tie large		4	On request
n.m.	Rivet		5	On request
n.m.	Cable holder		5	On request

The fire extinguishing system uses a liquid extinguishing agent.

It consists of a two-chamber container (Figure 2.1) which stores the extinguishing agent in liquid form and transforms it into a gaseous state upon discharge.

This enables a residue-free extinguishing. Two gas cartridges, which are activated via a control device, are used as the propellants for the extinguishing agent (Figure 2.2).

The content of the extinguishing agent container has a mass of 2.25 kg which contributes to keeping the total weight of the vehicle to a minimum.

The extinguishing agent reaches the Cockpit through three nozzles (Figure 2.3, 2.4, 2.5), the engine compartment through two additional nozzles (Figure 2.6) and the front of the car with the tank through one additional nozzle (Figure 2.7).

The system can be activated both from the outside (Figure 2.8) as well as from the centre console (Figure 2.9) using a push button.

Both switches can be checked for their functionality.

NOTE The system is operated with a 9 Volt block battery.

The 9 Volt block battery must be replaced regularly in order to ensure the proper function of the fire extinguishing system.

2.1 Battery replacement

The battery is located in the control device behind the cover labelled FEV (see Figure 2.10).

When changing the battery the system must be switched off.

This means that the switch for the control device of the trigger unit (Figure 2.10) must be in the **OFF** position.



Figure 2.1 Two-chamber container in the passenger footwell

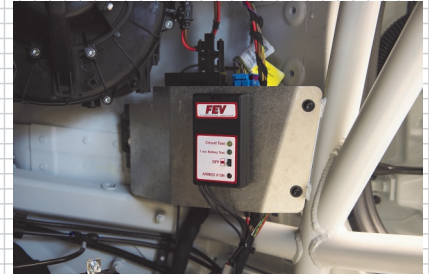


Figure 2.2 Control Device



Figure 2.3 Three nozzles in the cockpit: #1 Roof

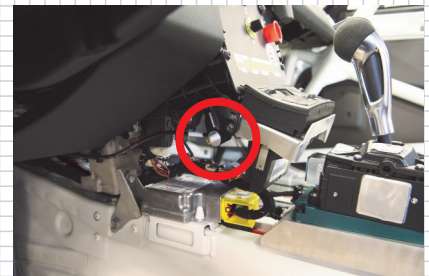


Figure 2.4 Three nozzles in the cockpit: #2 Centre console

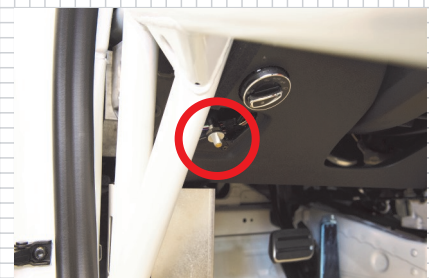


Figure 2.5 Three nozzles in the cockpit: #3 Driver footwell

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2.2 Trigger switch test:

The switch test is conducted on the control device of the fire extinguishing system (Figure 2.10). The following steps must always be observed so that there are no unwanted triggers of the system:

The switch has three positions.

- Top position
=(Circuit Test/1 sec Battery Test)
Battery/Switch Continuity test
- Centre position
= (OFF) System is out of operation
- Bottom position
= (ARMED if ON)
The system is activated, the red LED is permanently lit. If there is a fault in the circuit, the pressure cartridge is not connected, or empty, the red LED will not light up!

Trigger switch test

- Position the switch on the control device in the “Circuit Test” position.
- The green LED lights up for one second (battery is OK).
- The system is in test mode and not active.
- Now the trigger switches on the centre console and the external trigger switch can be activated.

When activating the switch interior/external, the yellow LED should not be lit.

The LED will illuminate continuously and goes out when the switch is activated.

NOTE

The fire extinguisher must be checked by the manufacturer every two years even if it has not been activated. The next inspection date is onnoted on the extinguishing agent container.

ATTENTION

Prior to each operation of the vehicle the proper function of the entire fire protection system must be checked.

Manufacturer contact:

Fire Extinguisher Valve Company (FEV)
Unit 10 Ford Lane Business Park
Ford Nr Arundel West Sussex
BN18 0UZ, United Kingdom
Tel.: +44 (0) 12 43-55 55 66
www.f-e-v.co.uk

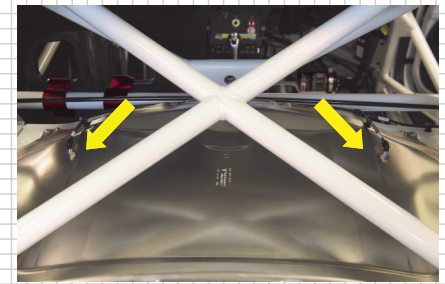


Figure 2.6 To nozzles in the engine compartment

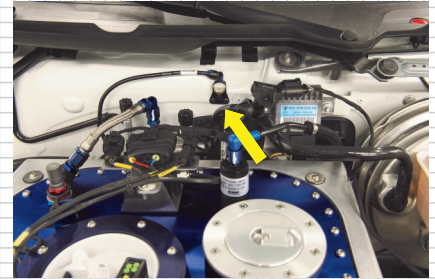


Figure 2.7 One nozzle in the installation area tank



Figure 2.8 The system can be activated from outside

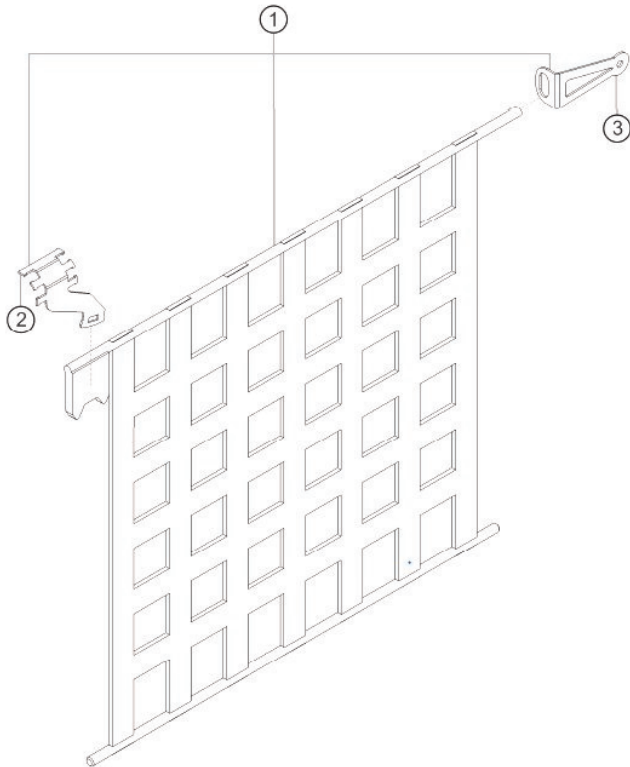


Figure 2.9 The system can also be activated from the inside



Figure 2.10 Control device trigger unit
**Porsche Cayman GT4
Clubsport MR (981)
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3.0 Window Net



Pos.	Material description	M	pc s.	Part Number
1	Assy. Door net		1	MTH801005
2	Front bracket		1	MTH801821
3	Rear bracket		1	MTH801823

The window net is affixed to the front part of the cage with a customized support and enables easy entry and exit.

It can be operated from inside and outside.

In the event of a roll over the net prevents the driver's extremities from being ejected from the vehicle.

⚠ WARNING Each driver and assistant must be informed of the correct handling of the net prior to operating the vehicle.

⚠ WARNING An improperly functioning release of the window net can lead to difficulty exiting the vehicle. Prior to each operation of the vehicle check to ensure that the net release is functioning properly.

⚠ WARNING In order to avoid unintentional opening of the window net during operation the closure should always be checked for foreign objects or damage before each operation of the vehicle.



Figure 3.1 The window net is affixed to the front of the cage



Figure 3.2 The window net can be opened/closed from outside

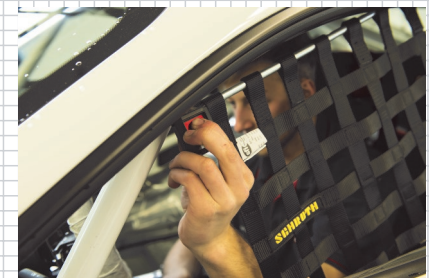
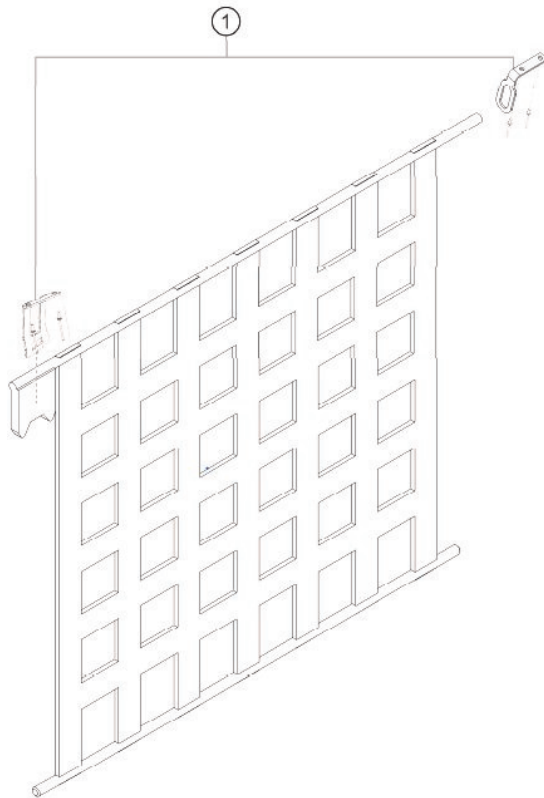


Figure 3.3 The window net can be opened/closed from inside

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3.1 Window net V2



Pos.	Material description	M	pc s.	Part Number
1	KIT NET HOLDER V2		1	MTH801010

For window net V2 the window net was set further back to give the driver better visibility. The front bracket is now no longer affixed to the cage but instead attached to the body. It can be operated from both the inside and the outside.

⚠ WARNING

Each driver and assistant must be informed of the correct handling of the net prior to operating the vehicle.

⚠ WARNING

An improperly functioning release of the window net can lead to difficulty exiting the vehicle. Prior to each operation of the vehicle check to ensure that the net release is functioning properly.

⚠ WARNING

In order to avoid unintentional opening of the window net during operation the closure should always be checked for foreign objects or damage before each operation of the vehicle.

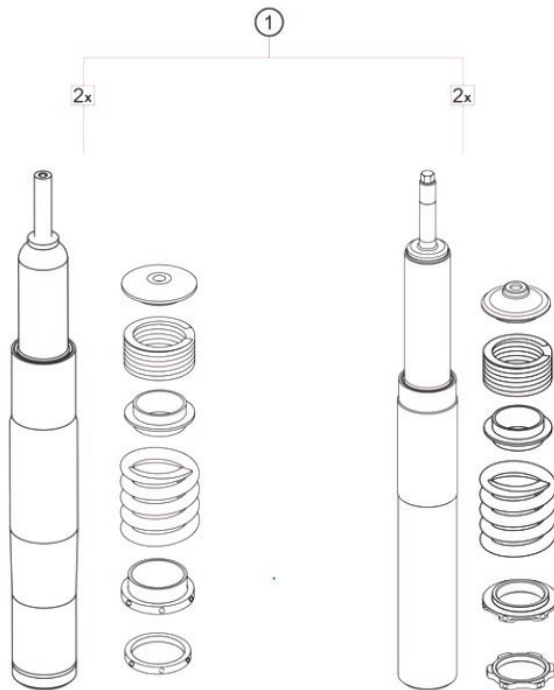
NOTE

Please refer to the regulations of your series license regarding the release of this window net version.



Figure 3.1 The window net is affixed further back on the body

4.0 Suspension type Trophy



Pos.	Material description	M	pc s.	Part Number
1	Complete Kit Trophy Spec		1	MTH022300

The suspension package consists of upside-down dampers on the front axle and rear axle as well as high-performance racing springs.

Both the damping forces as well as the spring rates were developed for use on the Nürburgring Nordschleife and are also reliable for use on other race tracks.

Identification of the springs as follows:
Spring rate in N/mm - tension free length in mm.

The dampers (Trophy damper) are equipped with spring rates 140-140 (front axle) and 150-140 (rear axle) in accordance with the standard. From a driving height of 109 mm (reference measurement point) or higher, the longer main spring 150-170 must be installed in connection with the helper spring 3/60/80.

P.-No. MTH333532 Spring (HA) 150 N/mm; (l=170mm)
P.-No. MTH343537A helperspring (3/60/80)

There is also the option of driving a softer spring version, this then consists of the following springs:

110-140* (front axle) and 120-170* incl. 3/60/80 (rear axle).

P.-No. MTH034200A optional spring package

NOTE Please note the maintenance intervals in the technical manual of the Porsche AG.

NOTE Revision interval for dampers: 5.000km

Run-time revisions or repairs after accident damage can be made directly at Manthey-Racing.



Figure 4.1 Upside-Down damper

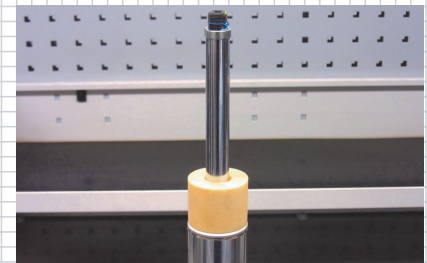


Figure 4.2: Bump stop configuration of the front axle:

- 30 mm RD65

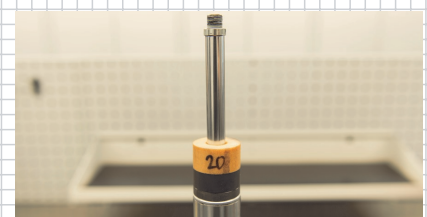


Figure 4.3: Bump stop configuration of the rear axle:

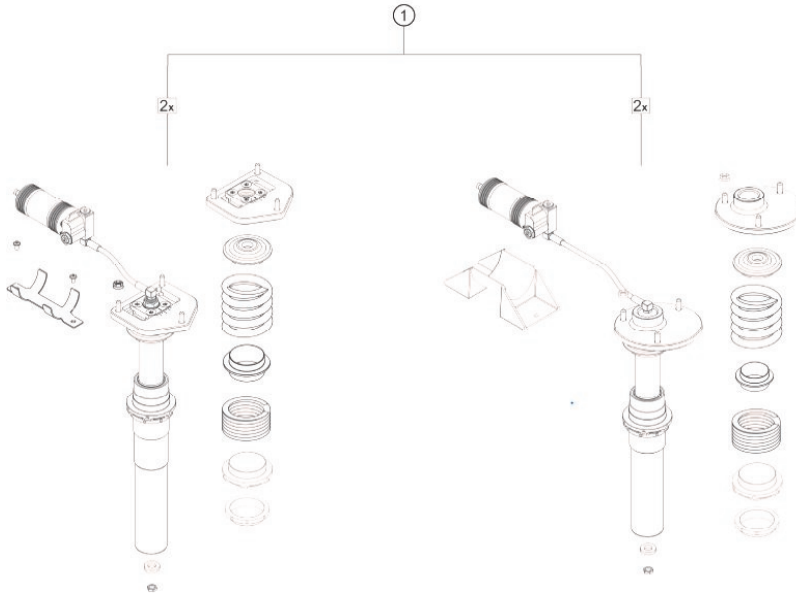
- 20 mm RD60

- 15 mm RB65

- 7 mm Packer

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4.1 Suspension variation 2-way adjustable (SRO-Homologation)



Pos.	Material description	M	pcs.	Part Number
1	Complete kit - 2-way adjustable		1	MTH022400

Within the framework of the development of the Cayman GT4 Clubsport MR in accordance with the SRO Homologation an additional suspension variation exists. This GT4 specific variant consists of two-way adjustable dampers for front and rear axle.

The following spring configurations are available:

130-140 (VA) MTH343530 and 130-170 (HA) MTH333534

120-140 (VA) MTH333533 and 110-170 (HA) MTH333535

150-140 (VA) MTH333531 and 150-170 (HA) MTH333532

The helper spring is 10/60/80 for all the spring configurations with the P.-No. MTH343538.

The rebound adjustment is located on the lower end of the damper and is adjustable in 18 clicks.

The bump of the damper is adjustable in 18 clicks in a separate reservoir.

NOTE Through the adjustable strut bearing the camber can be set in a wider area. (Figure 4.4)

NOTE Please note the maintenance intervals in the Technical Manual of Porsche AG.

NOTE Revision interval for the dampers: 5.000km

Run-time revisions or repairs after accident damage can be made directly at Manthey-Racing.

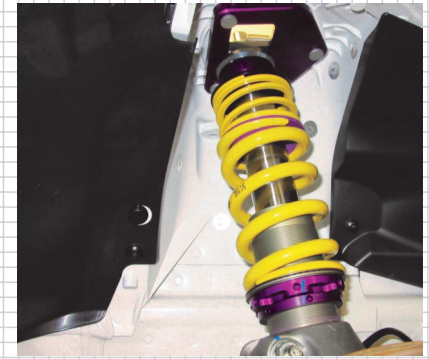


Figure 4.1 GT4 damper



Figure 4.2 High-speed adjustment of the bump



Figure 4.3 Adjustment of the rebound

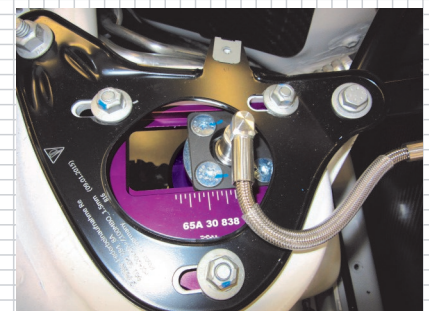


Figure 4.4 Camber adjustment on the top mount

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5.0 Drive shaft spacer

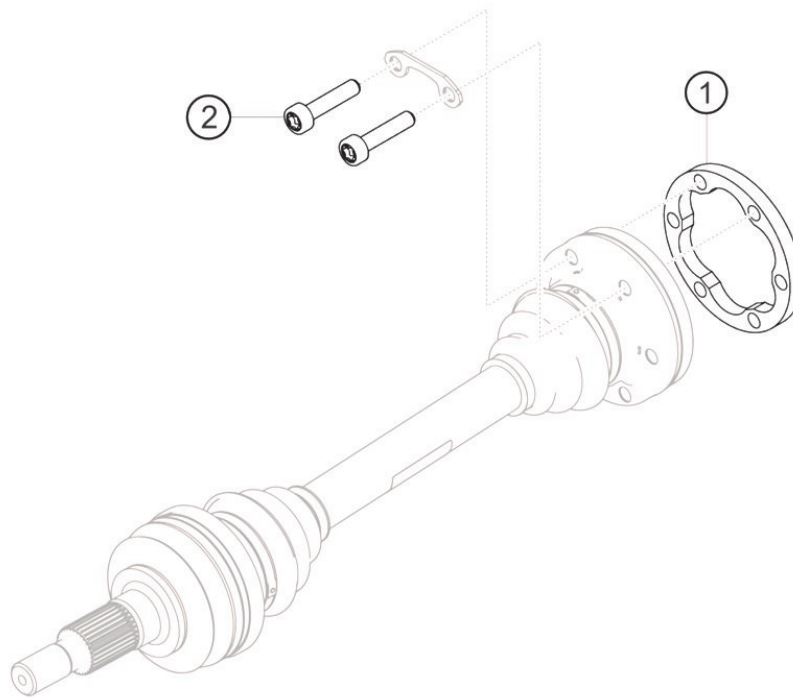


Bild 5.1 Drive shaft spacer between drive shaft and gearbox flange

Pos.	Material description	M	pcs.	Part Number
1	drive shaft spacer10 mm		2	MTH332527
2	M10x55 Screw		12	MTH332524

Pos.	Description/ Dimensions	Torque in Nm
2	MTH332524 /M10x55	81

In the case of negative camber settings of more than 3.5° on the rear axle, the drive shaft spacers must be fitted. The original screws will be replaced by MTH332524 screws.

NOTE

Non-compliance may cause damage to the vehicle.

NOTE

It is important to ensure that the engine and gearbox are centred to the vehicle chassis.

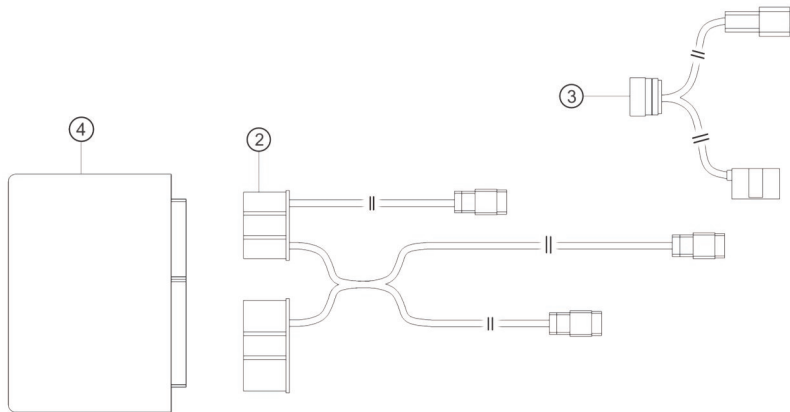
WARNING

Fittings should be executed in accordance with the Cayman GT4 Clubsport technical manual.

WARNING

Refer to the technical information from the Porsche AG.

6.0 CAN Gateway



Pos.	Material description	M	pcs.	Part Number
1	Wire harness Gateway		1	MTH610710
2	Y-Cable		1	MTH610720
3	Universal Gateway 5x CAN		1	98161207180

If a data logger, or the like, is to be used, then use of the CAN Gateway Kit MTH610700 is required.

The CAN table, which contains the output values of the CAN Gateway, can be found in the installation instructions.

NOTE Refer to the technical information from the Porsche AG

NOTE Direct connection of a data logger, or the like, to the vehicle CAN-Bus can lead to failures.

NOTE Direct connection of a data logger, or the like, to the OBD socket can lead to failures of the CAN-Bus system..

The connector plug for a data logger is located in the area of the B-pillar on the passenger side. The Pin assignment for connecting a data logger to the CAN-Gateway is as follows:

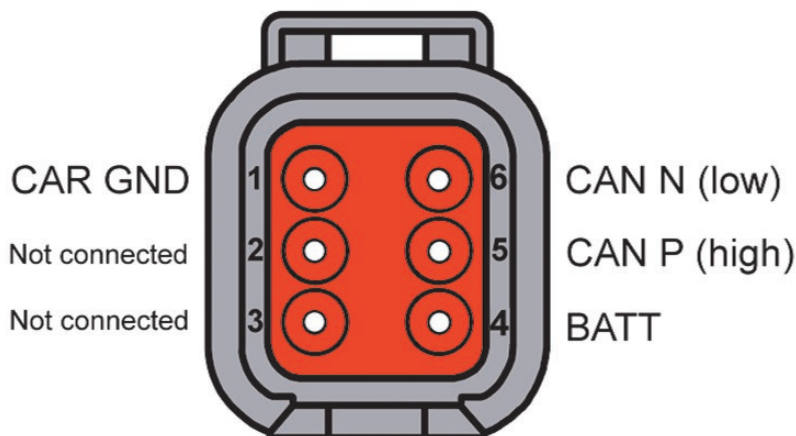
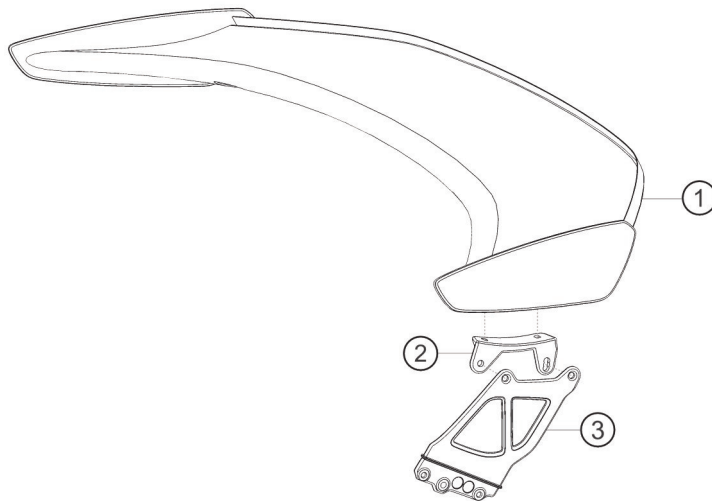


Figure 6.1 CAN Gateway-Kit

7.0 Rear wing (SRO Homologation)



Pos.	Material description	M	pcs.	Part Number
1	Rear wing		1	MTH512792
2	bracket left		1	MTH512683
2	bracket right		1	MTH512684
3	Rear wing support, left		1	MTH512681
3	Rear wing support, right		1	MTH512682

Position	Dimensions	Torque in Nm
Mounting on rear spoiler	M6 x 16	8 Nm
Linking connection and wing support	M6 x 12	8 Nm
Wing support on rear cover	M6 x 22	8 Nm

The rear wing of the Cayman GT4 CS MR in its dimensions in relation to the Cayman GT4 Clubsport wing variant is larger (deeper and wider) and therefore generates more down force. The rear wing can be adjusted in three levels (Figure 7.1). To adjust the rear wing remove the red marked screw in Figure 7.2. The blue screw identified in Figure 7.2 must only be loosened. No you can set the rear wing in the desired position. Then tighten both screws.

⚠ WARNING

The MR rear wing may only be used in connection with the wider wing supports provided for this.

⚠ WARNING

A change in the rear wing position results in modified driving behaviour.

⚠ WARNING

Check aerodynamic components regularly for damage.



Figure 7.1 Rear wing

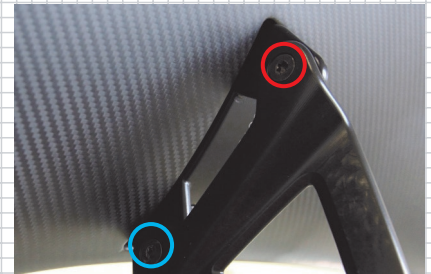


Figure 7.2 Rear wing fittings

8.0 Steering wheel hub extension

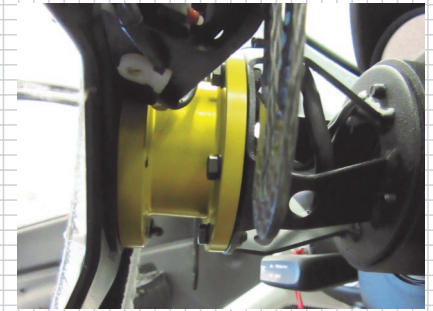
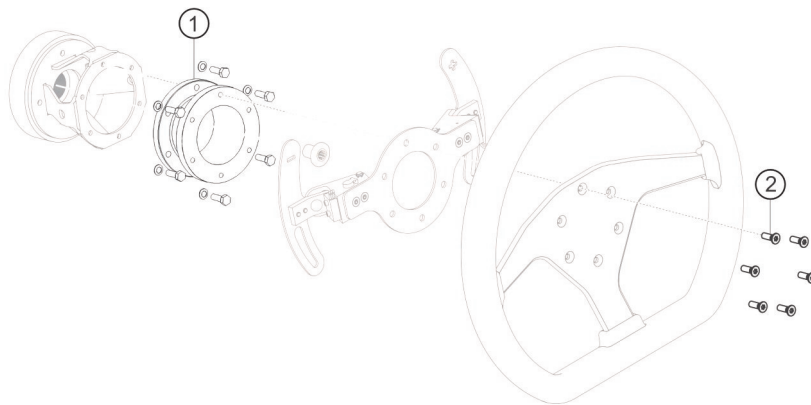


Figure 8.1 Steering wheel hub extension installed

Pos.	Material description	M	pcs.	Part Number
1	steering wheel hub extension		1	MTH347810
2	screws (M5x16)		6	—
n.m.	washers (M5)		6	—

The steering wheel hub extension was developed in order to make individual steering wheel adjustment possible.

The steering wheel will be shifted by 4 cm to the driver using the steering wheel hub extension.

WARNING

For the fitting of the steering wheel hub extension the M5x16 screws provided must be used incl. the washers.

WARNING

Improper handling of safety-relevant fitting.

Risk of injury.

Torque reduction

- Fit new fastening screws and nuts after every expansion.
- Comply with recommended tightening torques.

NOTE

Follow the installation sequence! See drawing above.

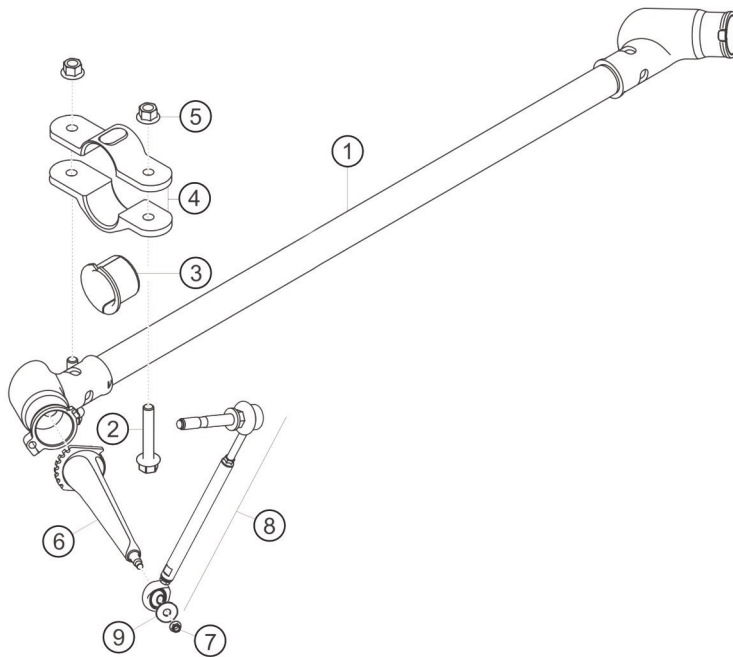
DANGER

The tightening torque of the screws for the steering wheel hub extension is **6 Nm**. In addition, medium strength Loctite (type 243) must be used.

WARNING

The 6 steering wheel screws will be tightened in accordance with the Cayman GT4 Clubsport technical manual.

9.0 Anti-roll bar front axle (SRO Homologation)



Pos.	Material description	M	pcs.	Part Number
1	Z ANTI-ROLL BAR	X	1	MTH343738
2	HEXAGON SCREW AM10X60 10.9 26B1*		4	99907283601
3	ANTI-ROLL BAR MOUNT	X	2	9973337929B
4	VA CLAMP ANTI-ROLL BAR FORGED PART	X	2	9913437778C
5	HEXAGON NUT M10 D 6927 10 26B1		4	90038000801
6	BENDING LEVER	X	2	MTH343752
7	HEXAGON NUT M6 LN 939338 1.220.3	X	2	90081700102
8	Coupling rod	X	1	9913430698C
n.m.	ANTI-ROLL SUSPENSION	X	1	9913431708B
9	CONICAL DISC		2	9913435858A

The double-blade anti-roll bar is adjustable in 7 levels on each side. These levels can be adjusted on both sides independently from one another.

The adjustment is made by twisting the blade. The lowest stiffness is achieved when the blade is in the horizontal position relative to the road surface level (0°). In the diagram below the wheel related stiffness of the anti-roll bar is depicted dependent upon the blade position.



WARNING

By adjusting the anti-roll bar the driving behaviour is changed.

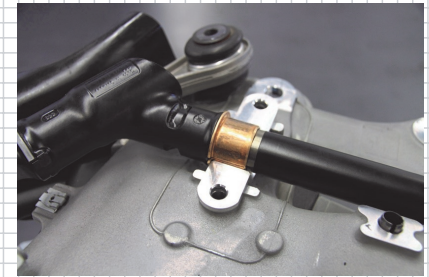


Figure 9.1 Mounting of the anti-roll bar

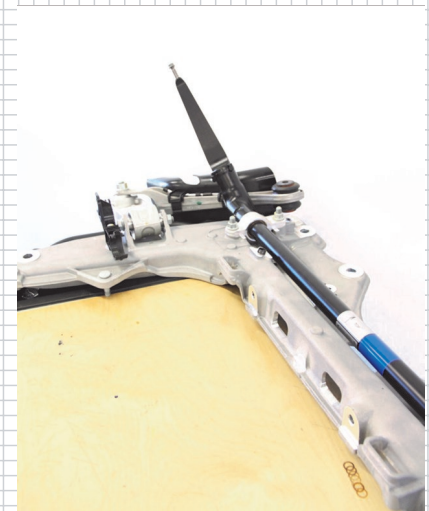
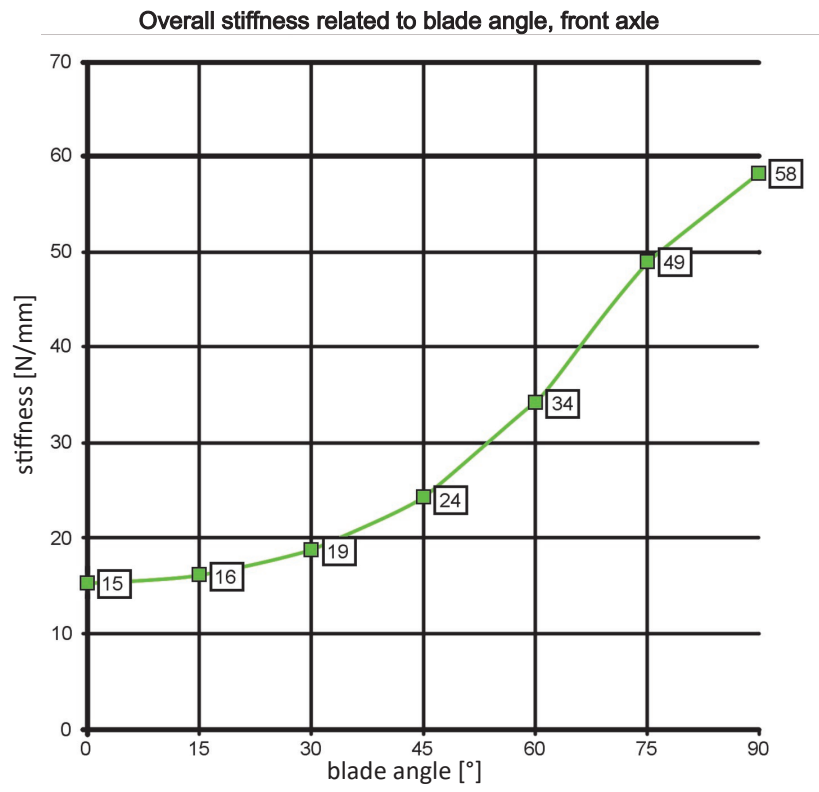


Figure 9.2 Installed anti-roll bar on the front axle cross beam

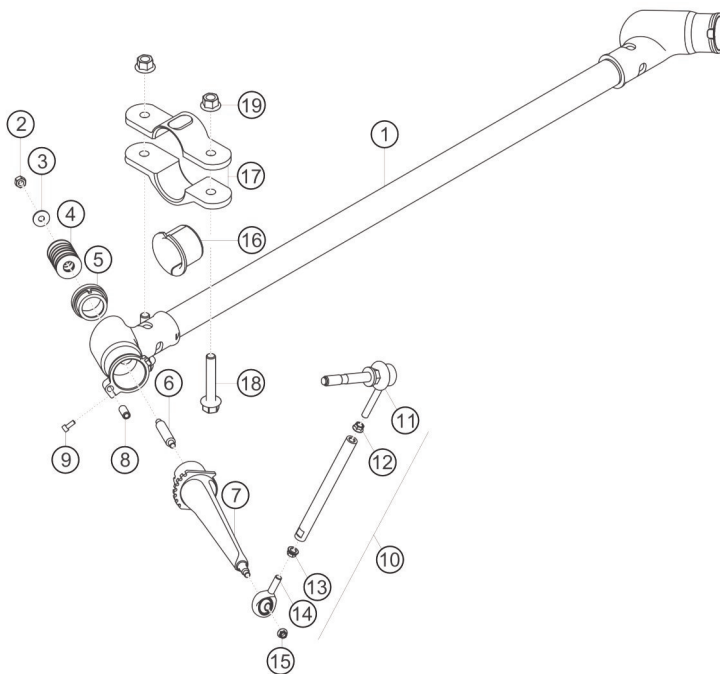
**Porsche Cayman GT4
Clubsport MR (981)
MJ 2016**



9.1 Setting the coupling rods

When setting the coupling rods it is important to ensure that no collision between the anti-roll bar and the other components can occur across the entire spring range and steering range. On the front axle there is a danger of collision with the suspension arm or the track rod in the case of an incorrect setting. In the case of an extended axle a distance of 6-7 mm from the wishbone is recommended. (Figure 9.1)

The torques and comments on the fastening of the individual components can be found in the following illustration and table:



Pos.	Dimensions	Torque in Nm/ Note
2	M6	10 Nm
8	M8 x 18	0.25mm gap, adjust
9	M4 x 10	3 Nm
12	M8	10 Nm
13	M8	10 Nm
15	M6	13 Nm
19	M10	65Nm



WARNING

The setting of the coupling rods (clearance) must be checked after every wheel alignment.

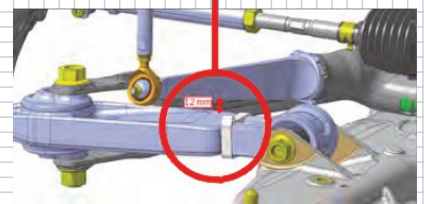
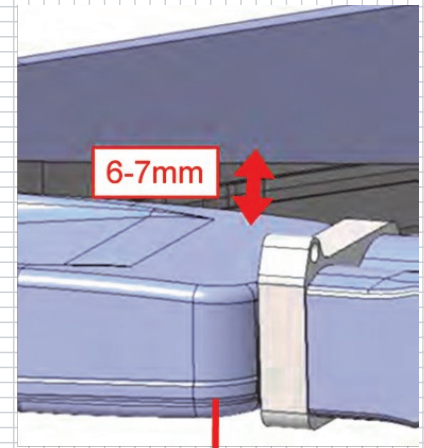
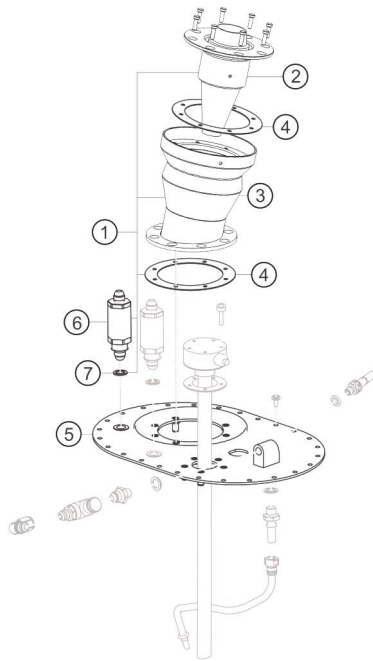


Figure 9.1 Setting the coupling rods

10.0 Tank filling system with flap valve



Pos.	Material description	M	pcs.	Part Number
1	Additional option Tank filling-system		1	MTH201005
2	Tank valve incl. Red tank plate		1	MTH201151
3	Tank tower		1	MTH201566
4	Seal filler neck	X	2	9912019538A
5	Z Mounting plate		1	MTH201317
6	Roll-over valve		1	MTH201763
7	Aluminum sealing ring		1	MTH123101

The system includes of a tank tower with a safety valve and a front lid with central hole. In the case of a new order, or reorder of the tank tower the front lid is not included in the scope of delivery. This must be ordered separately.

This enables refuelling of the vehicle without opening the lid.

The 3 flap valve requires no tank bottle and closes liquid-tight without the use of a filler cap.

Filling is done by using a standard petrol nozzle.

NOTE

When driving in countries with high temperatures Manthey-Racing recommends the installation of an additional roll over valve. This additional roll over valve ensures sufficient aeration and ventilation of the tank.

P.-No. MTH201705 optional roll over valve

WARNING

Manthey-Racing strongly recommends the use of fire-resistant clothing and helmet during the fuelling process. The vehicle may not be fuelled while the engine is running. The petrol nozzle must be inserted up to the stop.



Figure 10.1 Front hood with central opening

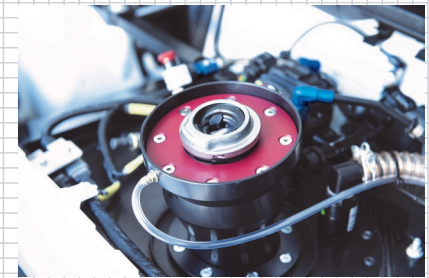


Figure 10.2 The tank valve closes liquid-tight without using a fuel filler cap

**Porsche Cayman GT4
Clubsport MR (981)
MJ 2016**

10.1 Premier tank system with double valve (SRO Homologation)

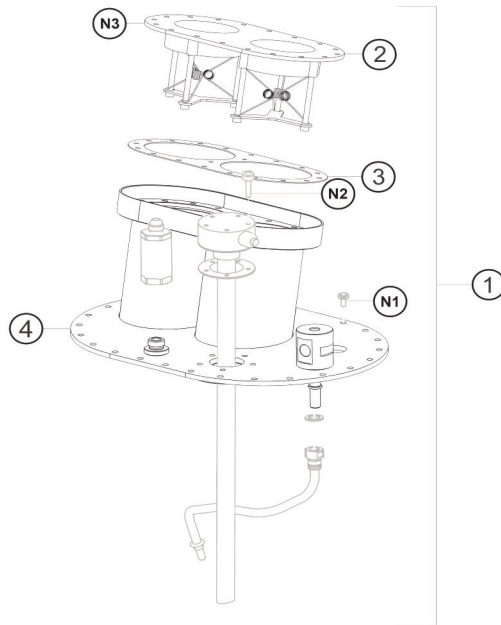


Bild 10.3 Premier tank system

Pos.	Material description	M	pcs.	Part Number
1	Z Tank filling GT4 CS MR		1	MTH201600
2	Premier valve		1	MTH201620
3	Sealing		1	MTH201630
4	Tank tower		1	MTH201610

The tightening torques of the tank tower are found in the table below:

Pos.	Description	Torque in Nm
N1	Mounting plate to tank	3.5 Nm
N2	Fuel tank sensor to tank	3.5 Nm
N3	Premier valve to tower	3.5 Nm

Fuelling is done by using a suitable fuel can in accordance with SRO GT4 regulations.

During the fuelling process, fuel runs through one opening of the valve while ventilation is conducted through the other opening.

WARNING

Manthey-Racing strongly recommends the use of fire-resistant clothing and helmet during the fuelling process. The vehicle may not be fuelled while the engine is running. The fuel nozzle must be inserted up to the stop.

WARNING

Please refer to the technical manual of the Cayman GT4 Clubsport.

NOTE

The front lid with an oval cut-out is not included in this package.

**Porsche Cayman GT4
Clubsport MR (981)
MJ 2016**

10.2 Tank filling system GT4 with flap valve

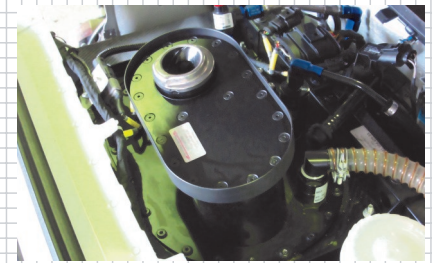
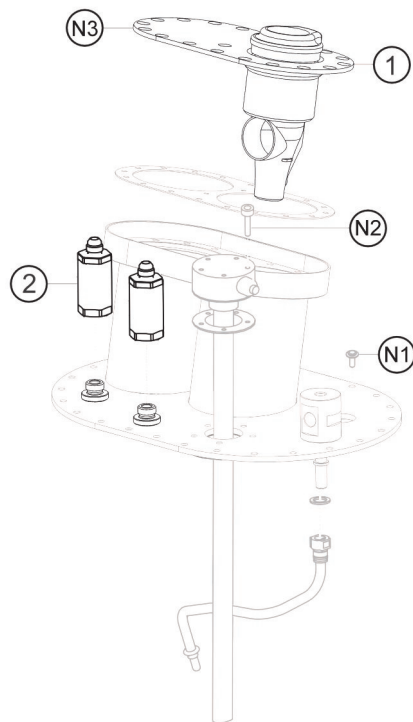


Figure 10.4 GT4 Tank tower with flap valve

Pos.	Material description	M	pcs	Part Number
1	Tank plate SRO safety valve		1	MTH201700
2	Roll-over valve		1-2	MTH201705

Pos.	Description	Torque in Nm
N1	Mounting plate on tank	3.5 Nm
N2	Fuel tank sensor on tank	3.5 Nm
N3	Premier valve on tower	3.5 Nm

In order to facilitate the conversion of the homologated version with double valve on the connection for refuelling using a fuel nozzle a plate with a flap valve was developed for the Premier Tower.

NOTE

When driving in countries with high temperatures Manthey-Racing recommends the installation of an additional roll over valve.

This additional roll over valve ensures sufficient aeration and ventilation of the tank.

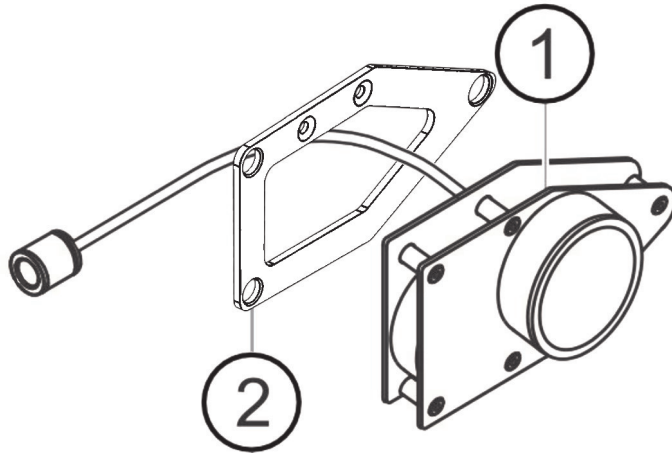
T.-No. MTH201705 optional roll over valve

WARNING

Manthey-Racing strongly recommends the use of fire-resistant clothing as well as a helmet during the fuelling process.

Do not refuel the vehicle with the engine running, the fuel nozzle must be inserted up to the stop.

11.0 Brake balance adjustment unit



Pos.	Material description	M	pcs.	Part Number
1	Brake force adjustment unit		1	MTH641809
2	metal plate		1	MTH641811

If a 100 litre FT3 safety fuel tank is fitted, the vehicle has a balance bar system.

The brake balance adjuster of the balance bar system was developed to set the brake balance from the passenger compartment.

NOTE Turning the adjustment wheel in the direction “R” (to the right) increasing the braking pressure of the rear axle in relation to the front axle.
Turning the adjustment wheel in the direction “F” (to the left) increase the braking pressure of the front axle in relation to the rear axle.

NOTE The basic settings of the balance bar system are found in the Cayman GT4 Clubsport technical manual.

ATTENTION Do not turn the adjustment wheel during braking. Increased effort required for adjustment!
This can lead to damage of the setting shaft.

WARNING Prior to adjusting the balance bar system the ABS should be set to position 0. Other ABS positions can lead to faulty ABS control interventions while driving.

DANGER A change in the brake force distribution leads to modified driving behaviour. Conduct test braking!

DANGER Changes in the brake force distribution can cause overbraking of individual axles.

DANGER Prior to each operation of the vehicle the complete balance bar system incl. adjustment unit should be checked for wear and function.

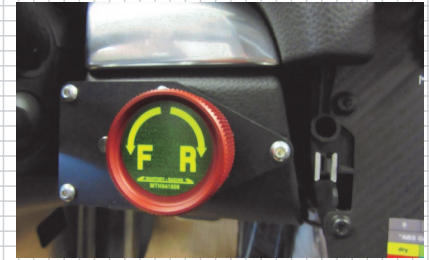


Figure 11.1 Adjustment unit balance beam in the interior of the vehicle

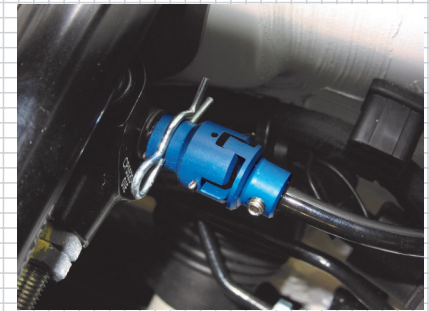
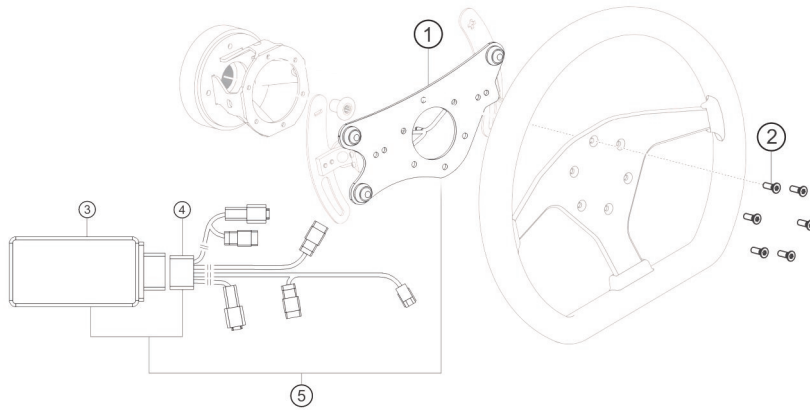


Figure 11.2 Adjustment unit balance beam on the balance beam

12.0 Function Plate



Pos.	Description	pc s.	Part Number
1	Function plate	1	MTH347800
2	Screws (M5x16)	6	
3	Control unit steering wheel operation	1	MTH347804
4	Main wiring harness steering wheel operation	1	MTH347806
5	KIT function plate	1	MTH347806

The function plate is fitted between the shift paddles and the steering wheel.

The operation of the following optional systems is possible using the function plate

- Drinking system:**
 By pressing the “Drink” button the pump of an optional drinking system can be activated.
- Radio:**
 By pressing and holding the “Radio” button a fitted radio can be activated.
- Auxiliary lighting:**
 By pressing the “Flash” button the flash function of the optional additional lighting can be activated.

NOTE

The flash function (flash pulses and quantity of headlights) can be regulated differently depending on the race series. There are various control devices available. Please inform yourself at your series organiser prior to ordering. As is standard, control devices are delivered with 10 flash pulses. For a fee the existing control device can be reprogrammed at Manthey-Racing.

NOTE

The “Flash” button activates only the flash function of the additional lighting. A flash function of the main headlights is not available.

WARNING

The installation guidelines for the steering wheel must be observed in accordance with the Cayman GT4 Clubsport technical manual.



Figure 12.1 Function Plate



Figure 12.2 Function Plate installed

13.0 Skid Pads

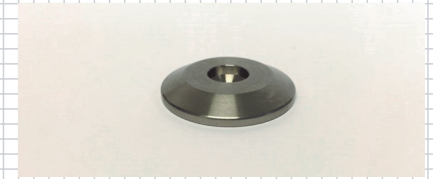
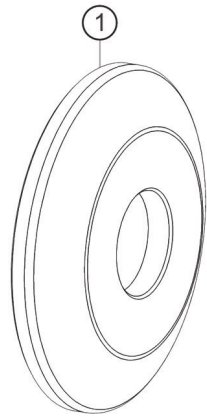


Figure 13.1 Skid Pad

Pos.	Material description	M	pcs.	Part Number
1	Skid Pad		1	MTH804755

To protect the boot from grinding Manthey-Racing developed Skid Pads. These pads are affixed to the underside of the front of the car.

The mounted skid pads protect the metal structure in the area of the boot from abrasion.

NOTE

For the installation of the Skid Pads please refer to the Manthey-Racing GmbH installation manual.

14.0 Additional lighting 24h

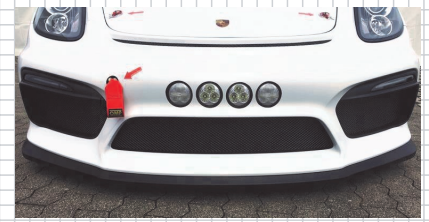
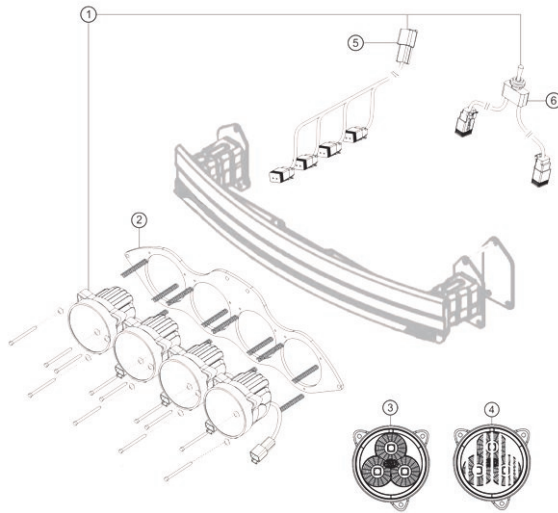


Figure 14.1 Additional lighting 24h

Pos.	Description	pc s.	Part Number
1	Cayman additional lighting 24h package	1	MTH631200
2	Lamp carrier 24h lighting	1	MTH631215
3	Centre headlight inside	2	MTH631905
4	Fog lights outside	2	MTH631906
5	Main wiring harness additional headlight 24h	1	MTH631205
6	Switch	1	MTH631210
o.B.	Adhesive templates	1	-

The additional lighting 24h was specifically developed for long-distance races which continue into the dark.

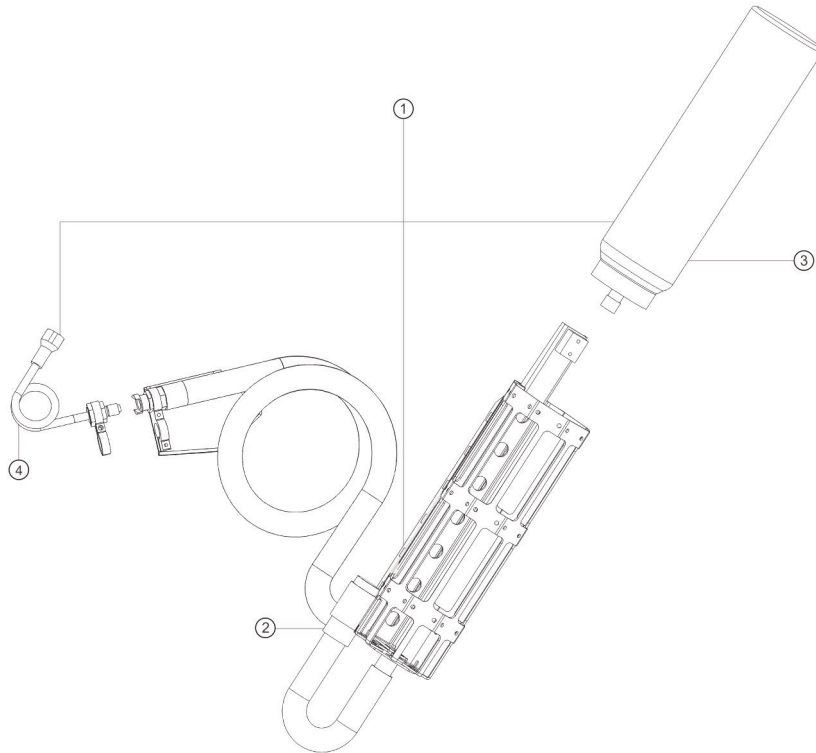
This additional lighting offers better illumination of the race track in darkness.

When using the function plate the 24h lighting can be used as a flasher. To do this connect it with the function plate. The additional lighting is switched on using a switch in the centre console. By pushing the "Flash" button the flash function is activated.

NOTE

Please observe the valid regulation provisions of your chosen race series. The flash interval and the number of headlights can be regulated differently.

15.0 Drinking system



Pos.	Material description	M	pc s.	Part Number
1	Drinking system		1	MTH860005
2	Assy. vehicle package		1	MTH860009
3	bottle		1	MTH860010
4	Helmet set		1	MTH860011

The drinking system is fitted into the passenger compartment and is specifically designed for use in the racing car. It is equipped with a fully insulated bottle (capacity 1,0ltr). By pressing the „Drink-Button“ the system is activated.

Liquid is fed to the helmet set of the driver by an electric pump via a tube.

NOTE The system is secured against flashover. The replacement of the drinking bottle can be done with one hand. The cap locks automatically, no additional locking is necessary.

NOTE After each use the system must be rinsed with at least 0.5L of clear water.

NOTE The pump must never be operated when dry. This will cause damage.

ATTENTION A radio port can also be installed into the coupling unit.



Figure 15.1 Bracket in the area of the A-pillar



Figure 15.2 Coupling unit on the driver's side

16.0 Air intake grid

Pos.	Material description	M	pcs.	Part Number
	Air intake grid, right		1	MTH541562
	Air intake grid, left		1	MTH541561

To protect the engine compartment purge fans and the air filters from excessive ingress of dirt (e.g. Pick up) Manthey-Racing developed a protective grid for the side air intakes.

NOTE

For the installation of the protection grid please refer to the Manthey-Racing GmbH installation instructions.

NOTE

Engine compartment purge fans may be damaged by Pick Up. Blocked engine compartment purge fans cause increased engine compartment temperatures. This can cause losses in performance.

NOTE

By Pick Up excessively dirty air filters can cause losses in performance.

NOTE

The protective grids should be cleaned during every pit stop.

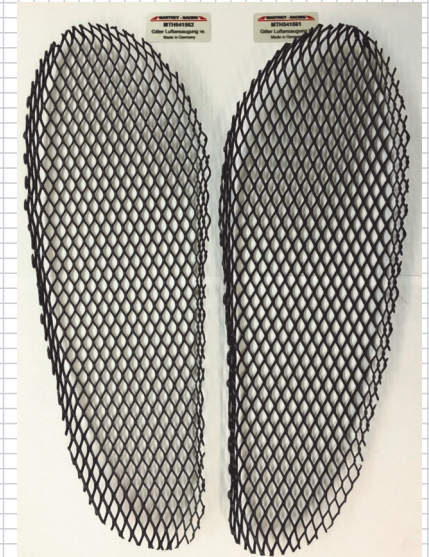


Figure 16.1 Protective Grid



Figure 16.2 Installed Protective Grid.

17.0 Battery vent



Pos.	Material description	M	pcs.	Part Number
1	Battery vent kit		1	MTH610550

The installation of the vent in the battery cover ensures that possible gases resulting from the battery can be safely conducted out of the passenger compartment in the area in the front of the car.

NOTE

The battery vent is required for participation in SRO GT4 series. Installation is generally recommended.

NOTE

For the installation of the battery vent please refer to the Manthey-Racing GmbH installation instructions.

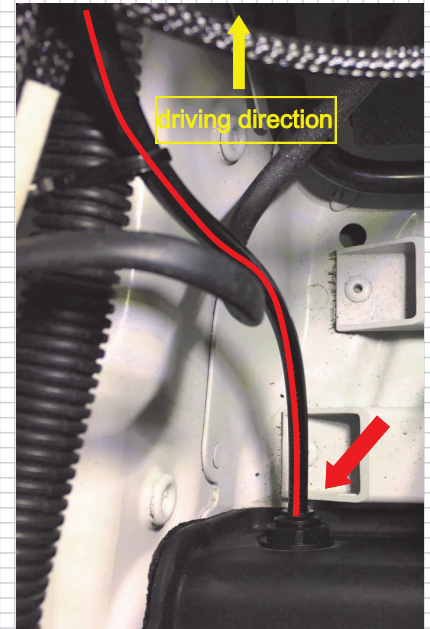
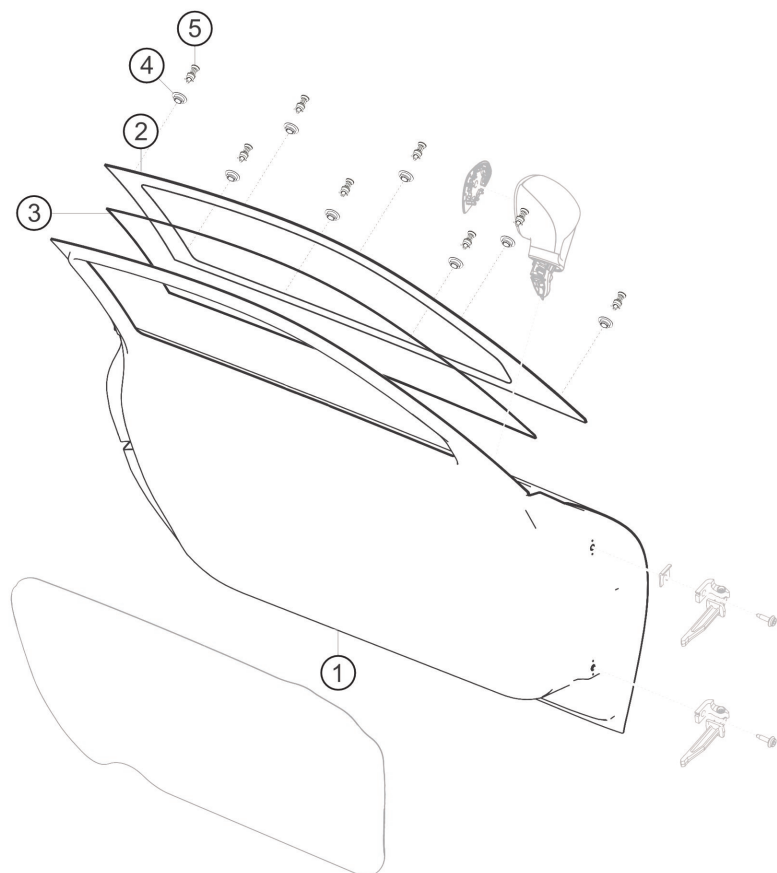


Figure 17.1 Installed connector in the battery cover with connected pipe

18.0 Lightweight doors (SRO Homologation)



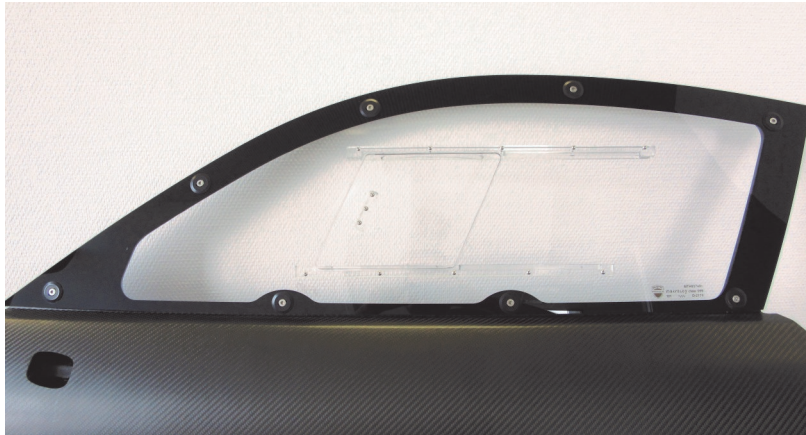
Pos.	Description	pcs.	Part Number
1	Door right	1	MTH837300
1	Door left	1	MTH837301
2	Pane door right	1	MTH837400
2	Pane door left	1	MTH837401
3	Sealing tape 10x3	1	MTH531111
4	CAM-Lock Base	8	MTH837955
5	CAM-Lock	8	MTH531316

The lightweight doors made of carbon-fibre reinforced plastic were developed in order to significantly reduce the weight of the vehicle and thereby further increase the vehicle's performance. The side windows are made of Makrolon and are attached by means of quick-release fasteners.

NOTE

The original door control units must be installed in the lightweight doors and connected. Non-compliance can lead to disruptions which could impact the function of the vehicle.

18.1 Side window with sliding window (SRO Homologation)



For even better ventilation of the passenger compartment a side window with sliding window for the driver's side was developed by Manthey-Racing.

P.-No. MTH837411 optional side window with sliding window

NOTE

Closed side windows are standard in the Cayman GT4 MR Kit. If a side window with sliding window is desired for the driver's side, this must be ordered separately.

⚠ ATTENTION

Please be careful when closing the sliding window
- Risk of crushing your finger.

Notes