911 GT2 RS Manthey Performance Kit

Vehicle Type: **911 GT2 RS**

Model Year: **As of 2018 up to 2019**

Cause: **Retrofitting**

Figure 1

Note: The Manthey Performance Kit for the 911 GT2 RS (type 991.2 ⇒*Figure 1*) was developed in close cooperation between the Porsche Development Center Weissach and Manthey Racing GmbH.

Thanks to perfectly matched chassis aerodynamics and brake components approved for use on roads, along with the lightweight GT2 RS magnesium wheels, it was possible to reconcile the breath-taking performance of the 991 GT2 RS with even greater precision to meet the demands of track days and leisure travel.

The Tequipment range is aimed at the target group of motor sports enthusiasts and amateur motor sports drivers.

The following areas on the vehicle will be converted:

- Chassis (new spring struts, new brake pads (NOT for USA) and brake lines and new magnesium complete wheels, incl. wheel covers on rear-axle wheels)
- Body (new carbon underbody panel (front), new air control elements on front apron and underbody, new rear diffusor, conversion of trunk lid with new rear wing and gurney)

NOTICE

- **The components have been tested and approved together. Installing of individual components contrary to the approved scope is not permitted or approved!**

Parts Info:

991.044.805.00	⇒ 911 GT2 RS Manthey Performance Kit – set, vehicle WITH lift system (474)
991.044.805.01	⇒ 911 GT2 RS Manthey Performance Kit – set, vehicle WITHOUT lift system (–474)

Parts to be ordered separately:

WHT.008.186	4x	⇒ M12x 1.5x 62 screws for front brake calliper
991.609.181.80	2x	⇒ Front brake pad wear indicator
999.067.053.09	4x	⇒ M12x 1.5x 85 screws for rear brake calliper
991.609.185.00	2x	⇒ Rear brake pad wear indicator
PAF.008.923	12x	⇒ Lock nut for securing dome bearing to body
999.084.123.09	4x	⇒ Collar nut securing connecting link (anti-roll bar)
PAF.008.550.00	2x	⇒ Lock nut securing damper strut support bearing to piston rod
PAF.008.674	2x	⇒ Hexagon-head bolt for connecting lower trailing arm to wheel bearing housing
999.084.445.01	2x	⇒ Lock nut for connecting lower trailing arm to wheel bearing housing
9A7.007.483.00	4x	⇒ External hexalobular screw for connecting seat frame to body
PAF.008.243	2x	⇒ Screws for hook on rear lid
999.073.509.02	4x	⇒ M6x 12 screws securing wings to wing support
999.085.051.03	4x	⇒ M6 nuts securing wing to wing support
999.073.510.02	6x	⇒ M6x 25 screws for securing wing support to trunk lid
000.043.305.38	1 x	⇒ Adhesive

Suspension alignment: Intermediate plates may be required for adjusting the camber values on the rear axle. Order the required intermediate plates accordingly:

9F1.505.184.A	2x	⇒ Intermediate plate, 0.5 mm
9F1.505.184.B	2x	⇒ Intermediate plate, 1 mm
9F1.505.184.C	2x	⇒ Intermediate plate, 2 mm
9F1.505.184.D	2x	⇒ Intermediate plate, 4 mm
9F1.505.184.F	2x	⇒ Intermediate plate, 0.3 mm

Also order the following stickers:

95B.010.004	1x	⇒ Vehicle identification number (VIN) sticker, engine code
7PP.010.786.T	1x	⇒ “MOBIL 1” engine oil sticker

If not yet available: **ALSO** order the required wheel set at the same time:

991.044.613.16	1x	⇒ 20-/21-inch GT2 RS magnesium wheel set, rim: Aurum (satin-gloss)
991.044.613.37	1x	⇒ 20-/21-inch GT2 RS magnesium wheel set, rim: Black (satin-gloss)
991.044.613.38	1x	⇒ 20-/21-inch GT2 RS magnesium wheel set, rim: Platinum (satin-gloss)
991.044.613.39	1x	⇒ 20-/21-inch GT2 RS magnesium wheel set, rim: White Gold Metallic (satin-gloss)
991.044.613.40	1x	⇒ 20-/21-inch GT2 RS magnesium wheel set, rim: Brilliant Silver

Information

Further overviews of the parts are shown before each relevant step.

Information

Please pass all this information on to the customer.

Also hand the race track booklet included with the parts over to the customer.

Content:

Assembly:

Information

Please note the procedure and preliminary work required for painting the rear lid. ⇒*Installation and Conversion Instructions '090800 Preliminary work/Painting MR rear lid'*

Information

- Some of the repair illustrations show only one side of the vehicle or a similar component.
- Naturally, some steps also have to be performed on the opposite side of the vehicle as well.

NOTICE

Vehicle and driver weight

- **Before starting the alignment, please ensure the following conditions are met:**

⇒ **Fuel tank is completely full**

⇒ **Driver's weight (incl. helmet and racing suit) has been determined or enquired about and is placed on the driver's seat with an equivalent weight**

1 Preliminary work

NOTICE

Painting components

- **Risk of warping of components**
- **Risk of damage to components**

⇒ **Observe the guidelines and instructions for painting components in the Paint Manual.**

⇒ **Always place parts without tension on the painting devices provided during painting and drying processes.**

1.1 Paint the new carbon trunk lid in accordance with the vehicle color code in the workshop manual.

1.2 Connect battery charger. ⇒*Workshop Manual '090800 Battery trickle charge'*

2 Chassis assembly. **Leave all four wheels removed as described in the Chassis section.**

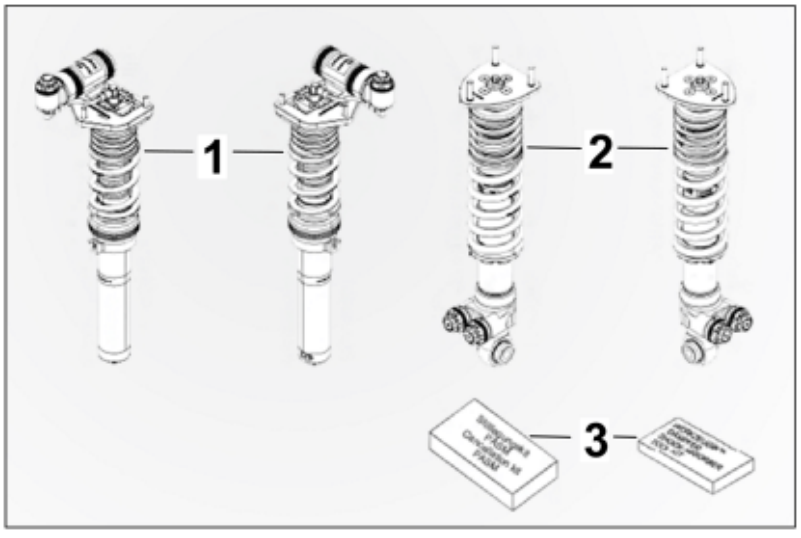

Figure 2

– Kit with 4 dampers/springs/dome bearings including PASM decommissioning kit **with a lift** — 991.044.806.31

– Kit with 4 dampers/springs/dome bearings including PASM decommissioning kit **without a lift** — 991.044.806.34

⇒ ***Figure 2*** **-1-** – Shock absorber front axle **with a lift** — 991.044.806.32 **without a lift** — 991.044.806.35

⇒ ***Figure 2*** **-2-** – Shock absorbers, rear axle — 991.044.806.33

⇒ ***Figure 2*** **-3-** – PASM decommissioning kit

2.1 Remove all four wheels. ⇒ *Workshop Manual '090800 Removing and installing wheel with central bolt'*

2.2 Remove front spring strut. ⇒ *Workshop Manual '090800 Removing and installing front spring strut'*

2.3 Convert the front axle lift system if installed ⇒ *Workshop Manual '090800 Disassembling and assembling front spring strut'*; otherwise, continue with Step 2.4

2.4 Convert the front suspension struts with the lift system.

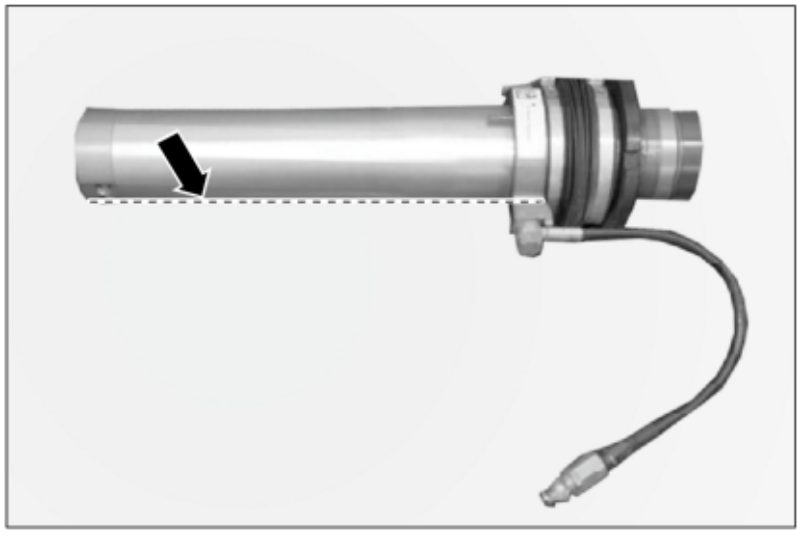

Figure 3

1. – Carefully mount the lift unit on the housing of the new shock absorber. Push the lift unit up to the collar on the damper housing (end stop). Align the connection of the lift unit with the holes in the bottom of the housing ⇒ *Figure 3* **-Arrow and line-**. Do not use force during assembly! Never hit the upper edge of the lift unit (seal) with a hammer.

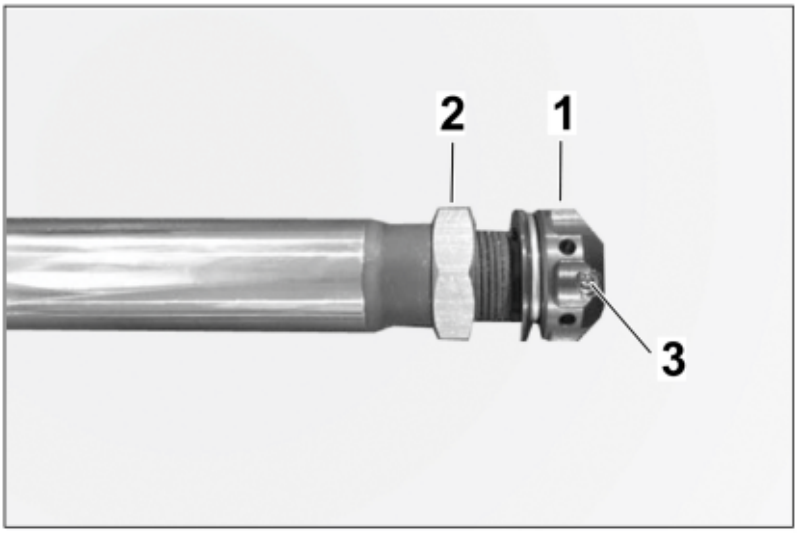

Figure 4

2. – Remove the adjustment wheel for the rebound adjustment from the new damper unit ⇒*Figure 4* **-1-** and the fastening nut ⇒*Figure 4* **-2-** of the damper housing. Do not completely remove the grub screw ⇒*Figure 4* **-3-** of the adjusting wheel. Only loosen it. Otherwise, it may get lost!

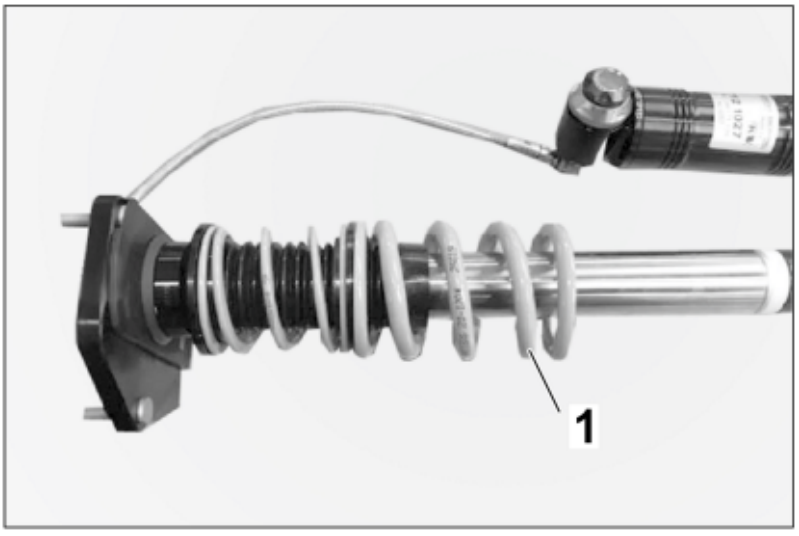

Figure 5

3. – Insert the spring package consisting of the helper spring, intermediate ring and main spring into the damper unit as shown in the picture. The spring package is always mounted with the helper spring at the top (on the upper spring plate).

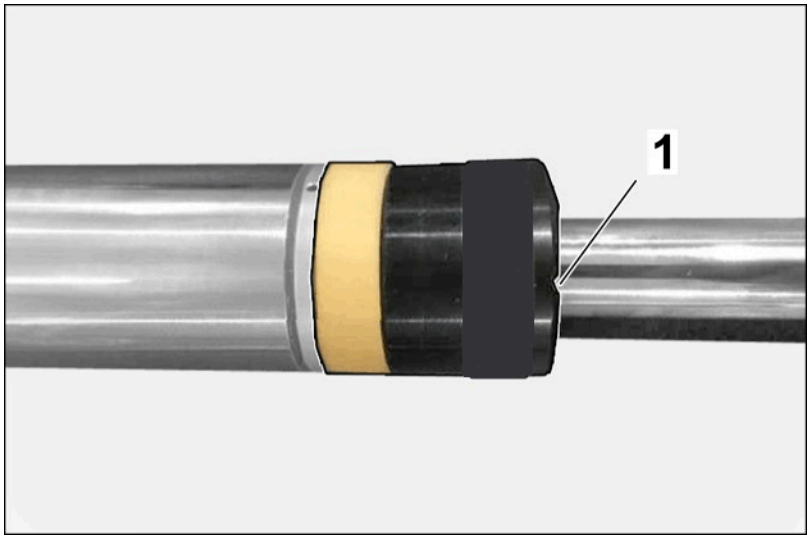

Figure 6

4. – All four components must be installed in the order shown! If necessary, the arrangement must be corrected! The grooves in the 4 mm (0.16 in) thick wheel spacer ⇒ *Figure 6* **-1-** must point downwards (in the direction of the rebound adjustment).

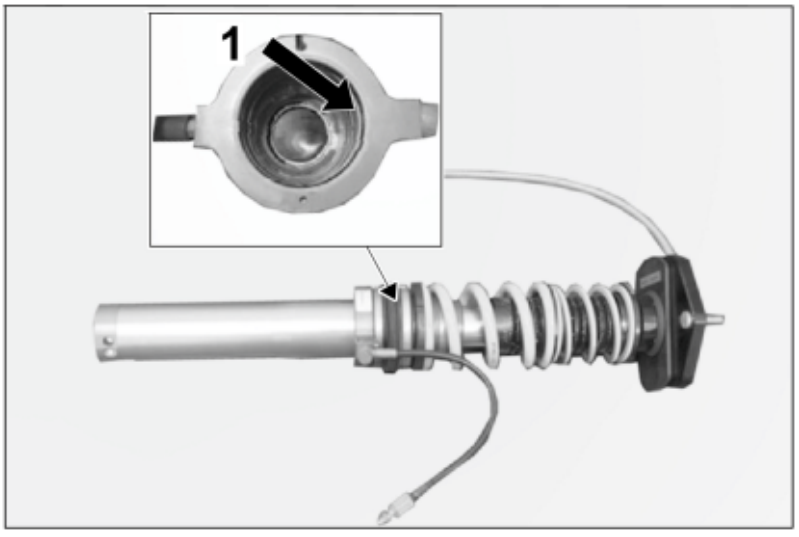

Figure 7

5. – Mount the strut housing. Make sure that the white plastic disc in the lift unit ⇒ *Figure 7* **-1-** is positioned almost centrally. Otherwise, it may become damaged during assembly! To assemble, set up the damper unit with the piston rod pointing upwards and assemble the housing from above!

Figure 8

6. – Push the housing onto the damper unit until the thread of the piston rod protrudes approx. 10 mm (0.40 in)⇒*Figure 8* **-1-** from the housing. To check that it is correctly positioned, apply slight pressure to the housing and turn the piston rod by approx. 180° left/right with a suitable open-end wrench. It is possible that the piston rod has not yet snapped into place in the seat of the housing.

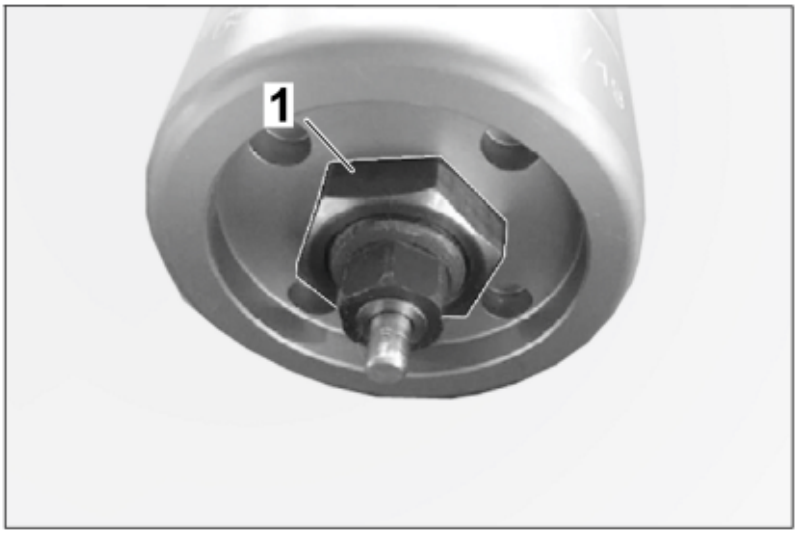

Figure 9

7. – If the piston rod is correctly locked in place in the housing, the fastening nut ⇒*Figure 9* **-1-**can be assembled. Hold the housing under slight pressure to prevent the piston rod from accidentally slipping out of its seat in the housing. Coat the thread with Loctite 246 (medium strength). **Hexagon nut Tightening torque 50 Nm (36.90 ft-lb)**

Figure 9.1

7.1 – Please note that the damper clamping tool for spring struts with lift must be used in Step 7.

Figure 10

8. – Push the adjusting wheel ⇒*Figure 10* **-1-** onto the adjusting shaft and tighten the grub screw ⇒*Figure 10* **-2-**. Make sure that the end of the adjusting shaft is flush with the adjusting wheel. Failure to observe this will lead to functional restrictions of the rebound adjustment. **Grub screw Tightening torque 2.5 Nm (1.80ft-lb)**

2.5 Install front spring strut. ⇒*Workshop Manual '090800 Removing and installing front spring strut'*

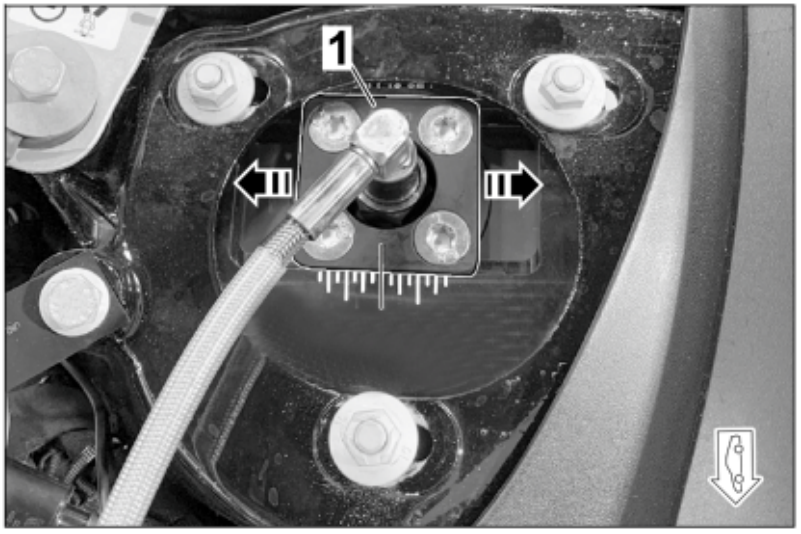

Figure 11

9. – Camber adjusting plate on the support bearing (⇒*Figure 11* **-1-**) starting from the outer stop (minimum camber) is in position as shown ⇒*Figure 11*. Tighten the four screws on the camber adjusting plate. **Screw: Tightening torque 25 Nm (18.40 ft-lb)**

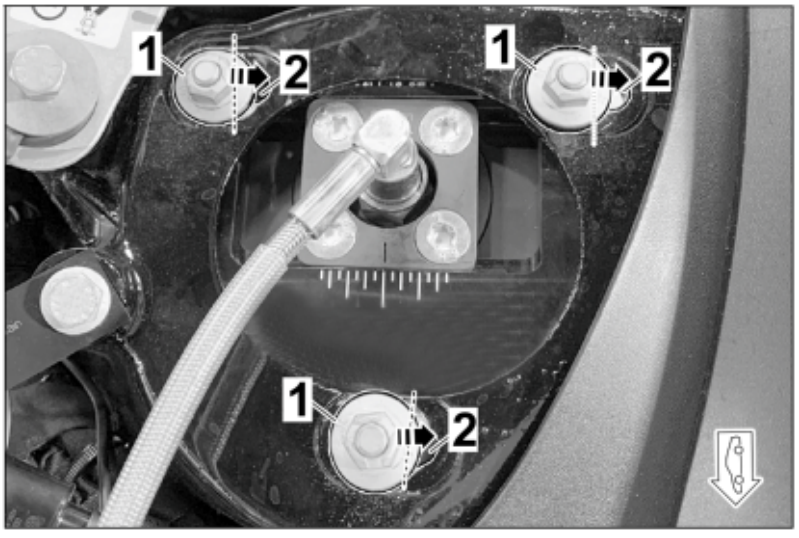

Figure 12

10. – Place the support bearing over the elongated holes ⇒*Figure 12* **-1-** in the dome into the center position (picture is different). Fasten the support bearings to the dome with three new collar nuts. **Collar nut Tightening torque 33 Nm (24.34 ft-lb)**

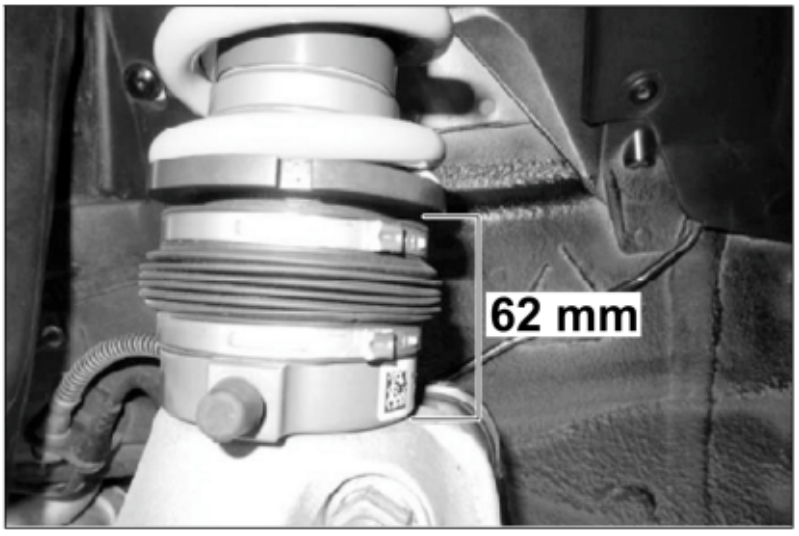

Figure 13

11. – Roughly set the wheel heights for wheel alignment. On the front axle, the height from the upper edge of the wheel carrier to the lower edge of the lower spring plate is set at 62 mm (2.44 in)⇒*Figure 13*. **If the chassis variant is installed without a lift system, this measurement is 55 mm (2.17 in)**. Finally, reconnect the lift system and screw the retaining bracket on tight.

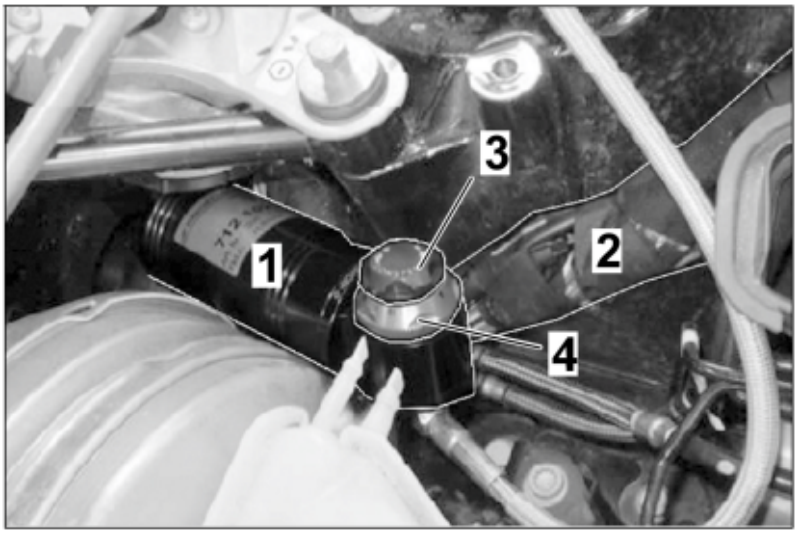

Figure 14 (LHD vehicle)

12. – Attach the pressure cell ⇒*Figure 14 (LHD vehicle)* **-1-** of the damper on the driver's side with two cable ties on the wiring harness shown ⇒*Figure 14 (LHD vehicle)* **-2-**. Fastening points for right-hand drive vehicles (RL) may vary: Mount the pressure cell onto the existing wiring harness as with left-hand drive vehicles (LL, ⇒*Figure 14 (LHD vehicle)*).

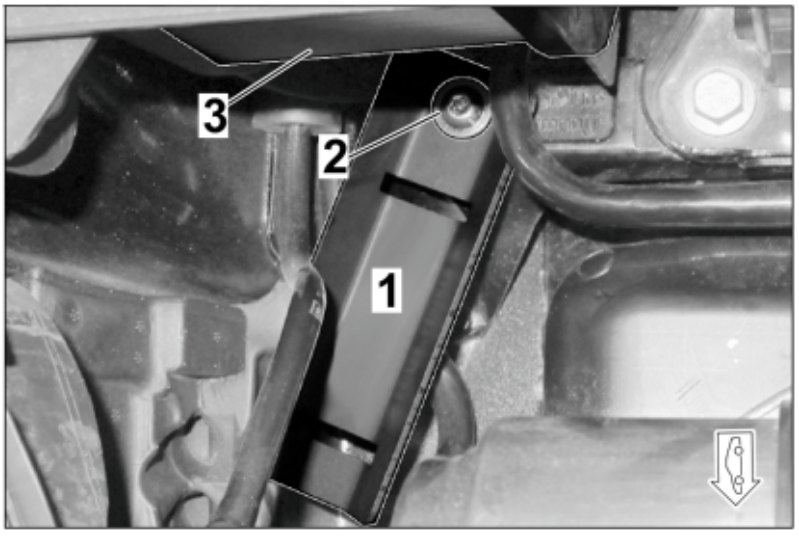

Figure 15

13. – To fasten the pressure cell of the right-hand damper, the holder ⇒*Figure 15* **-1-** is mounted on the thread ⇒*Figure 15* **-2-** shown below the inner air filter ⇒*Figure 15* **-3-** using the supplied pan-head screw. Fasten the pressure cell to the holder with two cable ties. **Pan-head screw: Tightening torque 23 Nm (16.96 ft-lb)**

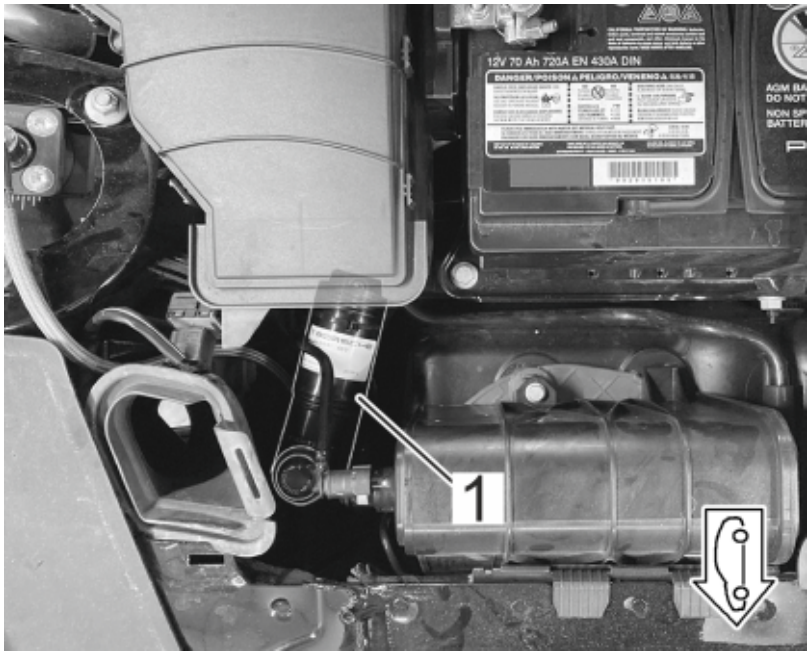

Figure 15.1

13.1 – The overview shows the pressure cell ⇒*Figure 15.1* **-1-** in the final installed position.

2.6 Leave the electrical plug connection (on the vehicle side) for PASM on all four axles in the bracket provided for this purpose. Connector remains free.

2.7 Damper setting for the front axle:

Traction stage (purple at the bottom of the damper):	Position 12
LowSpeed pressure level (purple at the pressure cell):	Position 7
HighSpeed pressure level (gold at the pressure cell):	Position 7

2.8 Remove rear spring strut. ⇒*Workshop Manual '090800 Removing and installing rear spring strut'*

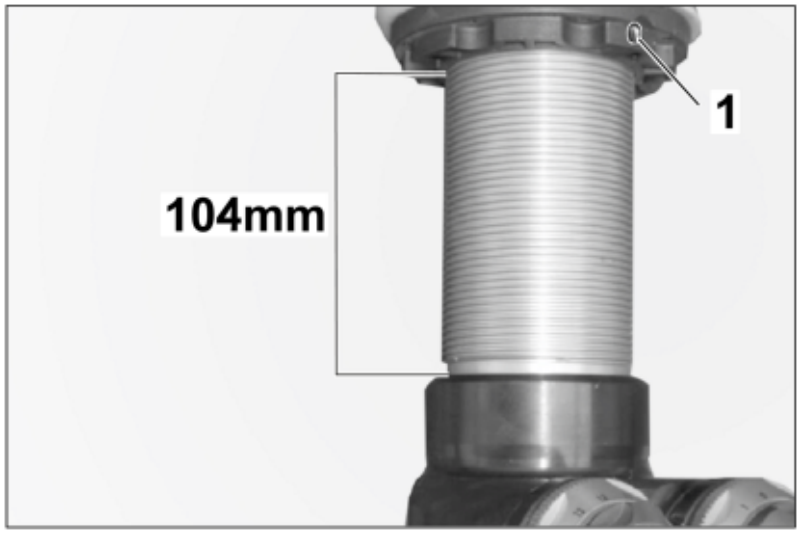

Figure 16

14. – Set the chassis height before installing the rear axle dampers in the vehicle. For vehicles with and without a lift system, the pre-setting from the lower housing collar to the lower edge of the spring plate is 104 mm (4.10 in)⇒*Figure 16*. The locking screw on the spring plate may have to be loosened for adjustment.

2.9 Install rear spring strut. ⇒*Workshop Manual '090800 Removing and installing rear spring strut'*

2.10 Damper setting for the rear axle:

Rebound stage (R LowSpeed - purple):	Position 5
Rebound (R Highspeed - gold):	Position 4
Compression level (C LowSpeed - purple):	Position 7
Pressure level (C HighSpeed - gold):	Position 7

2.11 Installation of the decommissioning kit for the active damper control PASM. In order to avoid error messages/error memory entries after removing and replacing the active shock absorbers (PASM), it is necessary to connect the supplied decommissioning kit to the control unit for the chassis control. The control unit for the chassis control is positioned in the area in front of the engine cover in the interior.

2.12 Remove fire extinguisher. ⇒*Workshop Manual '090800 Removing and installing fire extinguisher'*

2.13 Remove passenger seat. ⇒*Workshop Manual '090800 Removing and installing front seat (sports bucket seat)'*

2.14 Remove rear cover. ⇒*Workshop Manual '090800 Removing and installing rear cover (Coupé)'*

2.15 Mount the PASM decommissioning kit.

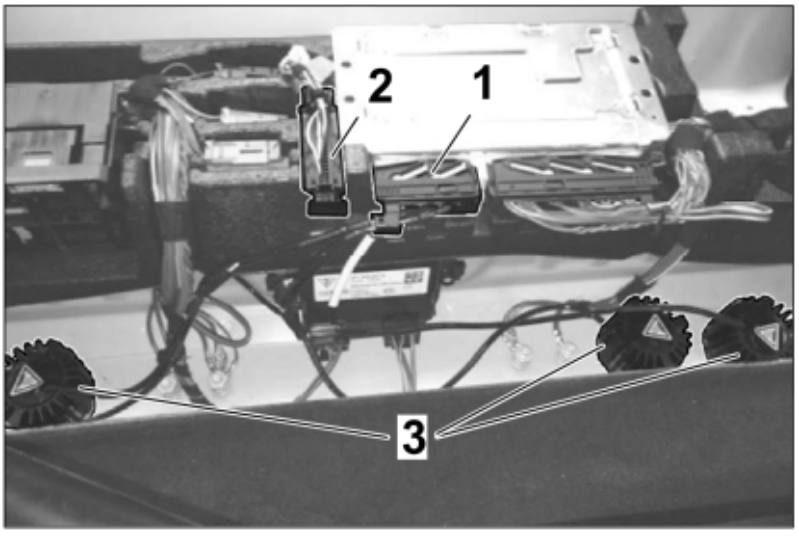

Figure 17

15. – Unlock and remove the connector ⇒*Figure 17* **-1-** for the damper control on the control unit.

16. – Fix the standard connector plug ⇒*Figure 17* **-2-** to the left of the control unit in the foam carrier.

17. – Insert the supplied new central plug in the control unit.

18. – Attach the resistors as shown above ⇒*Figure 17* **-3-** on the surface below the control unit, cleaning the adhesive surface beforehand.

19. – Make sure that all electrical plug contacts are correctly locked.

2.16 Install rear cover. ⇒*Workshop Manual '090800 Removing and installing rear cover (Coupé)'*

2.17 Install passenger seat. ⇒*Workshop Manual '090800 Removing and installing front seat (sports bucket seat)'*

2.18 Install fire extinguishers if included. ⇒*Workshop Manual '090800 Removing and installing fire extinguisher'*

2.19 Read out the fault memory and clear it if necessary. ⇒*Workshop Manual '090800 Fault memory for on-board diagnosis'*

WARNING

Danger of injury and damage from brake fluid

- **Poisonous if swallowed**
- **Irritation and damage to skin**
- **Avoid contact with paint surfaces**

⇒ **Only store brake fluid in suitable, labelled containers**

⇒ **Wear protective gloves and goggles**

⇒ **In the event of contact (eyes or skin), wash immediately with water**

⇒ **In the event of contact with paint surfaces, wash off immediately with water - do not wipe off**

3 Installation of new brake pads and brake lines. **Important: The brake pads are not approved in the USA!**

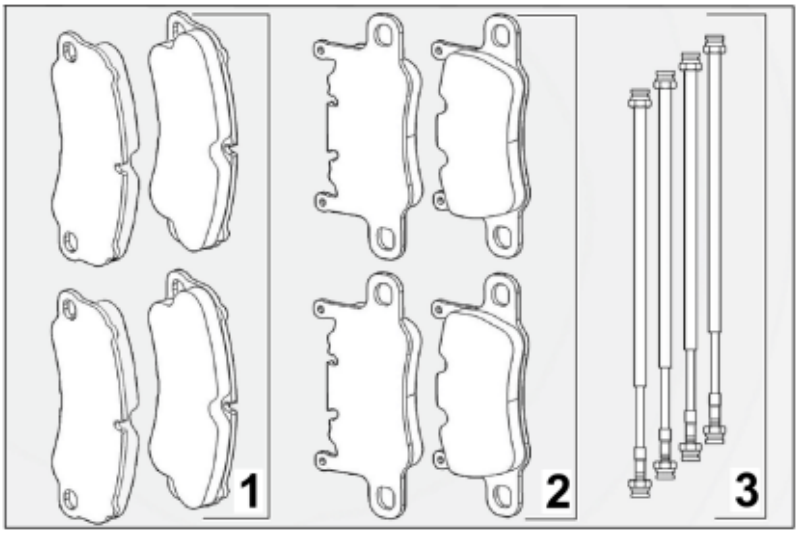

Figure 18

⇒***Figure 18* -3-** – Brake lines sections (steel braided), front axle and rear axle — 991.044.806.38

3.1 Conversion of front axle area

3.1.1 Remove brake calliper. ⇒*Workshop Manual '473919 Removing and installing front brake calliper'*

3.1.2 Replacing brake line

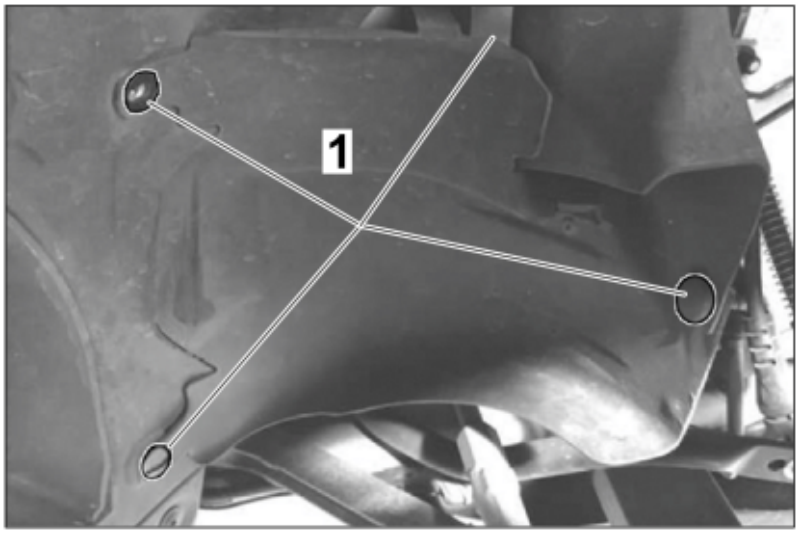

Figure 19

1. – Remove the screws ⇒*Figure 19* **-1-** and remove the front left and right brake air guides.

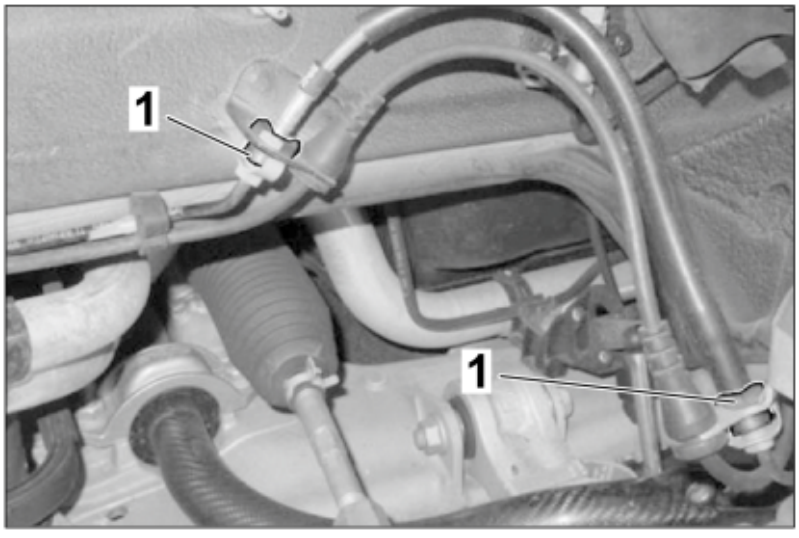

Figure 20

2. – Loosen the screw connection of the brake line ⇒*Figure 20* **-1-** and remove the brake line.

3. – Lay the new brake line in the same way as the standard brake line, attach it and tighten the screw connection. **Brake line screw connection: Tightening torque 10 Nm (7.38 ft-lb)**

4. – Clean adjacent components of any brake fluid that may have leaked out.

5. – Mount left and right brake-disc air guides ⇒*Figure 20*.

3.1.3 Install brake calliper. ⇒ *Workshop Manual '473919 Removing and installing front brake calliper'*

3.2 Conversion of rear axle area

3.2.1 Remove brake calliper. ⇒ *Workshop Manual '474119 Removing and installing rear brake calliper'*

3.2.2 Replacing brake line

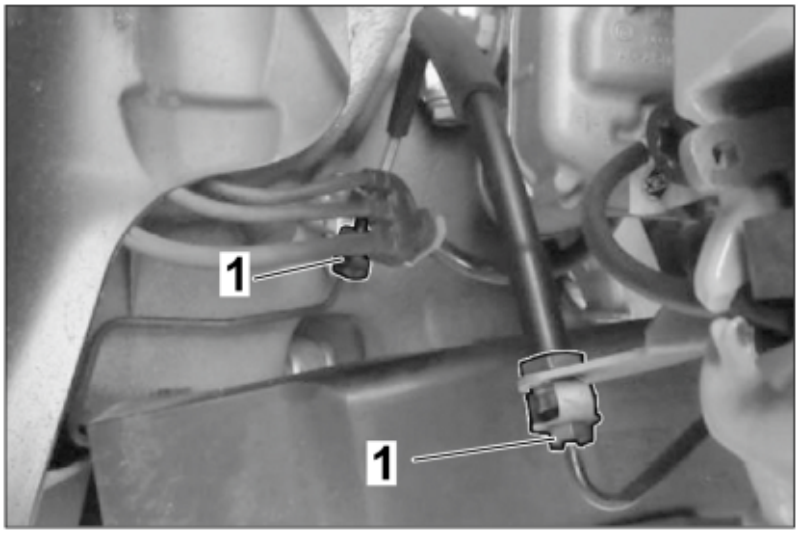

Figure 21

1. – Loosen the screw connection of the brake line ⇒ *Figure 21* **-1-** and remove the brake line.

2. – Lay the new brake line in the same way as the standard brake line, attach it and tighten the screw connection. **Brake line screw connection: Tightening torque 10 Nm (7.38 ft-lb)**

3. – Protect brake line from contact with the body by installing an additional anti-chafing element.

4. – Clean adjacent components of any brake fluid that may have leaked out.

3.2.3 Install brake calliper. ⇒ *Workshop Manual '474119 Removing and installing rear brake calliper'*

3.3 Bleed brake system. ⇒ *Workshop Manual '474119 Bleeding brake system'*

4 Install front carbon underbody panel.

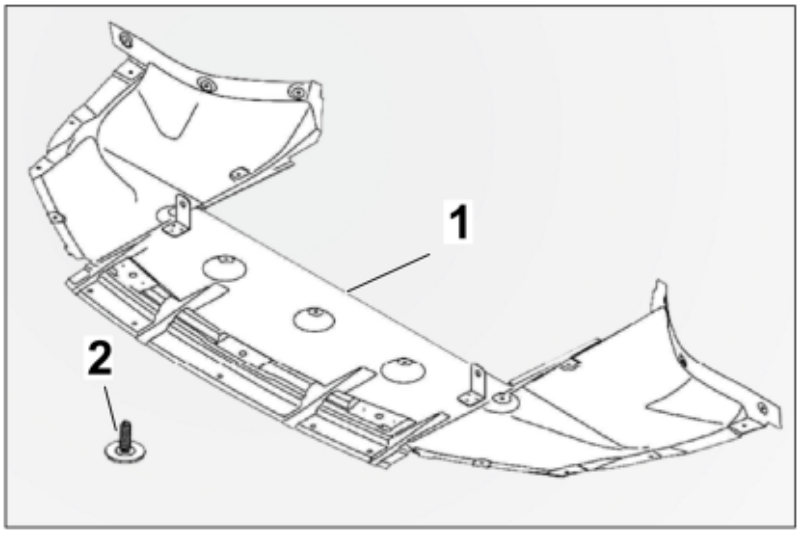

Figure 22

⇒***Figure 22* -1-** – Carbon underbody panel, front — 991.044.806.09
⇒***Figure 22* -2-** – ST4.8 x 16 tapping screw — see Spare Parts Catalogue Screws on front apron

4.1 Remove front apron. ⇒*Workshop Manual '474119 Removing and installing front apron'*

4.2 Removal of protective grilles on the front wing. **Important:** The protective grilles must always be installed for road use. Removal is only permitted for race track use, for which the grilles are removed and the screws replaced without the grilles. ⇒*Workshop Manual '474119 Removing and installing front wheelhouse liner (grille) '*

4.3 Remove front spoiler (middle). ⇒*Workshop Manual '474119 Removing and installing front spoiler (middle)'*

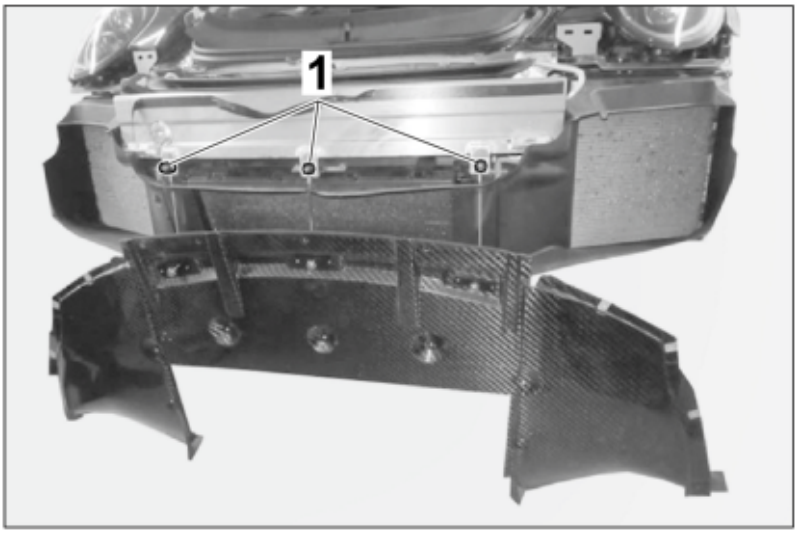

Figure 23

1. – First position the new front carbon underbody panel on the vehicle using tension cables (3 pcs.) ⇒*Figure 23* **-1-**. Check that the ring eyelet is aligned correctly. This must be inserted with the shaft in the aluminium tabs (twist lock). **Hexagon nut: Tightening torque 23 Nm (16.96 ft-lb)**

Figure 24

2. – Position the underbody panel. Make sure that the two holder brackets are engaged in the pins on the body ⇒*Figure 24* **-1-**.

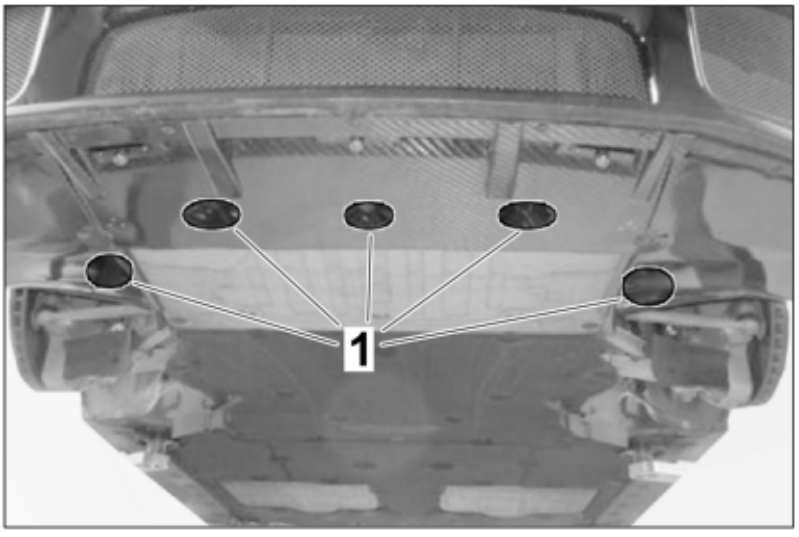

Figure 25

3. – Secure the new carbon underbody panel at the points shown ⇒*Figure 25* **-1-** using the five ST4.8 x 16 tapping screws (without collar) supplied. **Important:** The standard ST4.8 x 19 tapping screws must always be replaced.

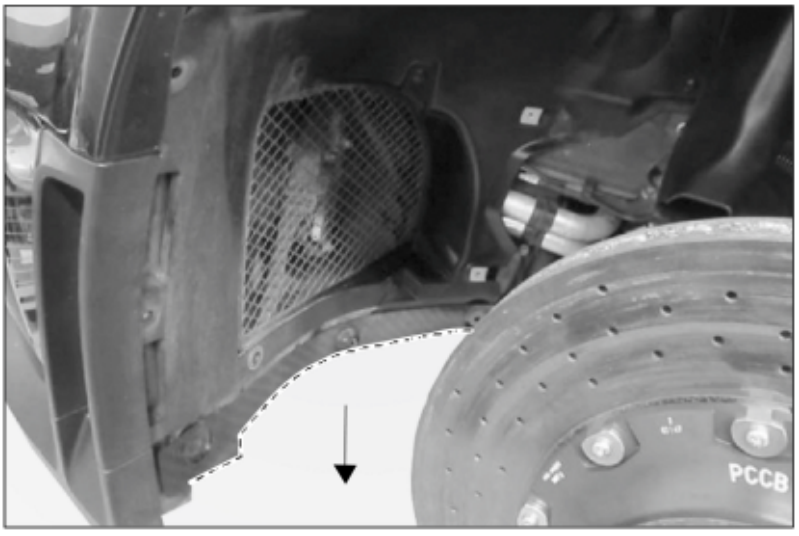

Figure 26

4. – Refit the front apron. Make sure that the wheelhouse liner is not yet seated in its final position. Re-connect the electrical plug connections for supplying power to the front apron on both sides. Re-connect the hose line for the headlight cleaning system in the left wheelhouse. Install the two side tapping screws ST4.8 x 19 with rear collar at the junction between the front apron and wing.

5. – Bend down the carbon underbody panel and move the wheelhouse liner into position. The underbody panel can then be moved back to its original position. Secure the wheelhouse liner at the positions shown ⇒*Figure 26* using the standard screws. **ST 4.8 x 19 tapping screw: Tightening torque 2.36 ft–lb / 3.2 Nm (2.36 ft-lb)**

4.4 Finish installing the front apron. ⇒*Workshop Manual '474119 Removing and installing front apron'*

5 Mounting of the flaps on the front apron.

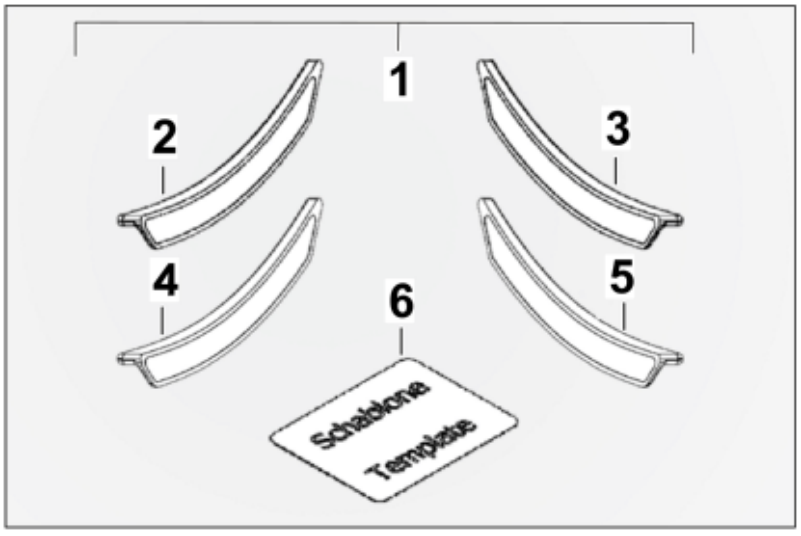

Figure 27

1 – GT2 RS MR Kit Flaps set, comprising
2 – Flap, upper right — 991.044.806.02
3 – Flap, upper left — 991.044.806.01
4 – Flap, lower right — 991.044.806.04
5 – Flap, lower left — 991.044.806.03
6 – Template — 991.044.806.00

5.1 Mount the flaps, installation position of the flaps ⇒ *Figure 28* **-1-**. The flaps are mounted on the side surfaces of the front apron.

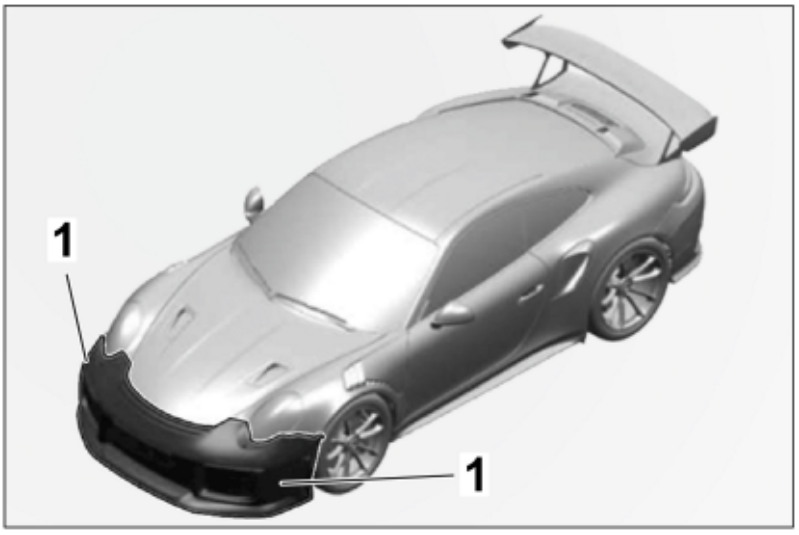

Figure 28

1. – Thoroughly clean the adhesive surfaces with isopropanol (alcohol). The adhesive surfaces must be free from dust, dirt and grease of any kind.

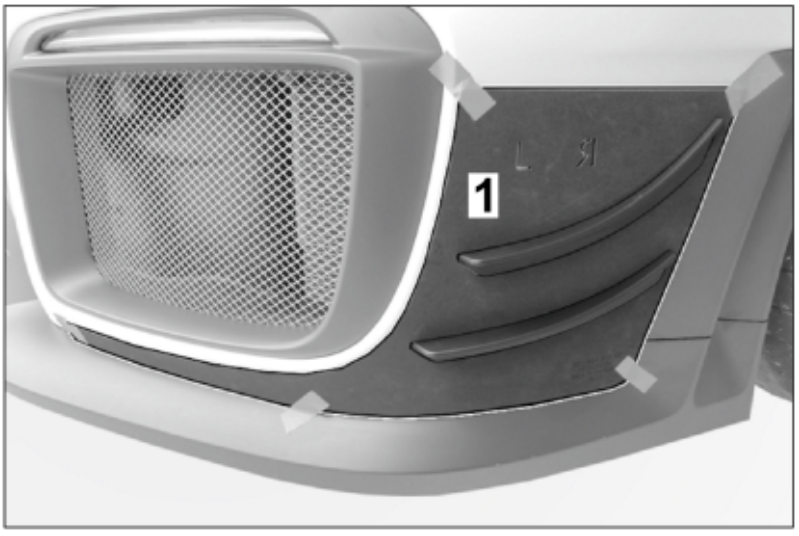

Figure 29

2. – Attach the template ⇒*Figure 29* **-1-** by means of adhesive strips on the side surface of the front apron. Pay attention to the correct orientation of the template! Place the template on the reference edge below (transition to the front lip) and on the rear reference line (edge of the air outlet).

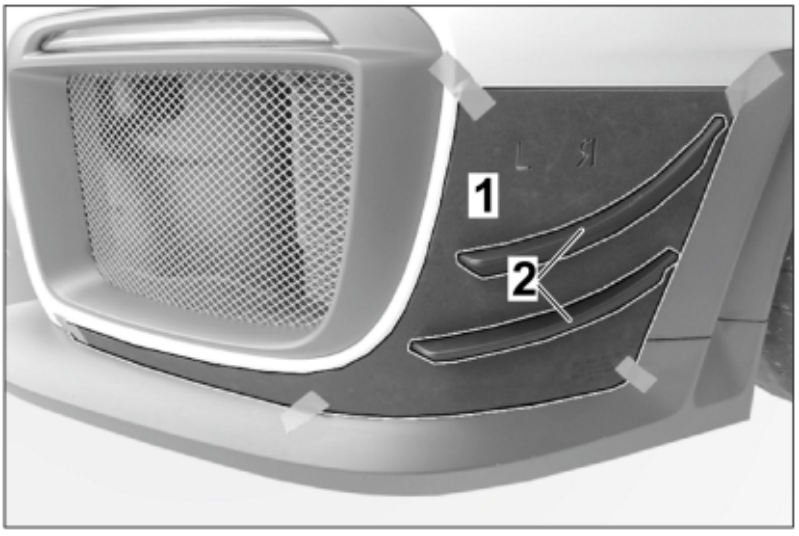

Figure 30

3. – Remove the protective film from the adhesive tape on the flaps and insert the flaps at the top and bottom into the cut-out in the adhesive template. Pay attention to the correct orientation when attaching the flap. The positioning cannot be corrected afterwards. Press the flaps firmly and as flush as possible against the front apron for 10 seconds.

4. – Remove the template. The flaps on the left side are now installed. Install the flaps on the right side the same way.

5. – Use the reverse side of the template to install the flap on the right side.
6. – Only the double-sided adhesive tape employed here may be used.

6 Mounting air control elements in the area of the underbody

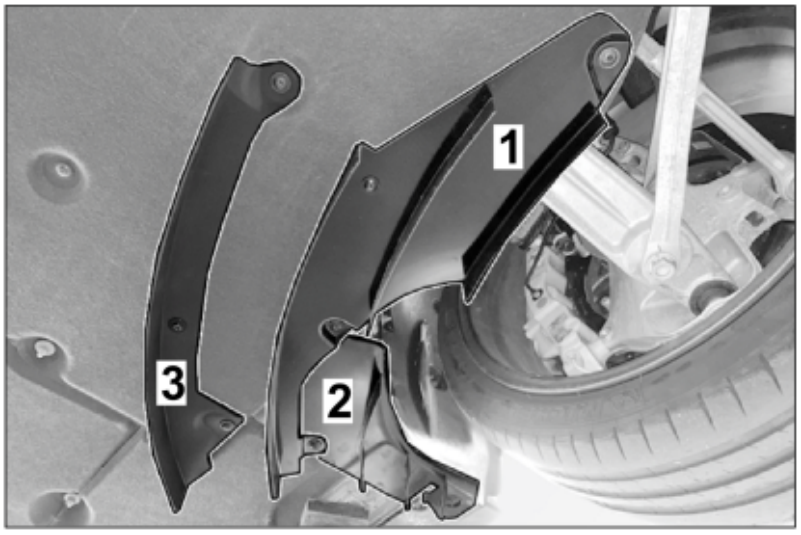

Figure 31

1 – Air control element, front left — 991.044.806.10 / front right — 991.044.806.11 (not shown)
2 – Air control element, left rear — 991.044.806.12 / right rear — 991.044.806.13 (not shown)
3 – Air control element, left inside — 991.044.806.14 / air control element, right inside — 991.044.806.15 (not shown)

6.1 Removing the standard air control elements

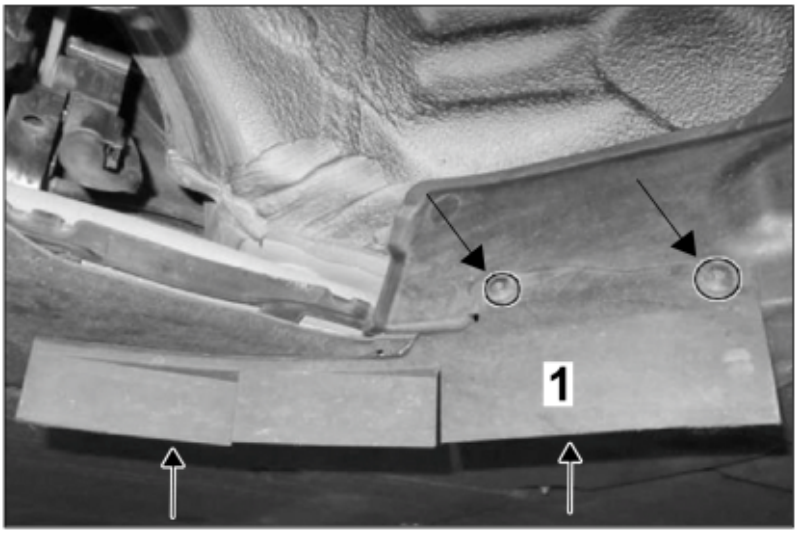

Figure 32

1 – Air control element (transition from underbody to wheelhouse)

6.1.1 Remove tapping screws (4 pcs. ⇒*Figure 32* **-Arrows-**) on air control elements (transition from underbody to wheelhouse ⇒*Figure 32* **-1-**) on the left/right side.

6.1.2 Remove left/right air control elements (transition from underbody to wheelhouse ⇒*Figure 32* **-1-**); these are NO longer needed.

6.1.3 Remove the aero insert on the front wheelhouse liner (left/right) (⇒*Figure 33*).

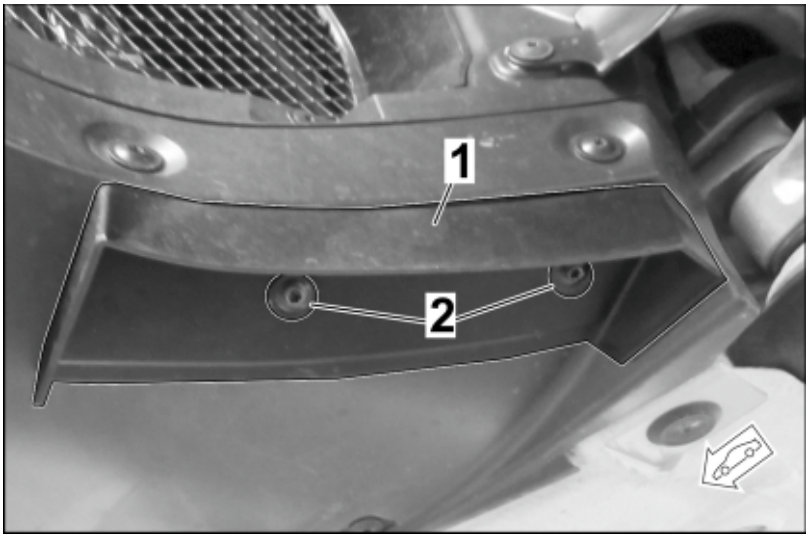

Figure 33

1 – Aero insert (wheelhouse liner, left)
2 – Screw

6.2 Mounting the new air control element (inside) on the underbody cover (front) on the left/right

6.2.1 Mount the respective air control element (inside) with screws (2 pcs.) at the existing fastening points (front/rear) on the underbody cover (front) on the corresponding side (left/right) (⇒*Figure 34*).

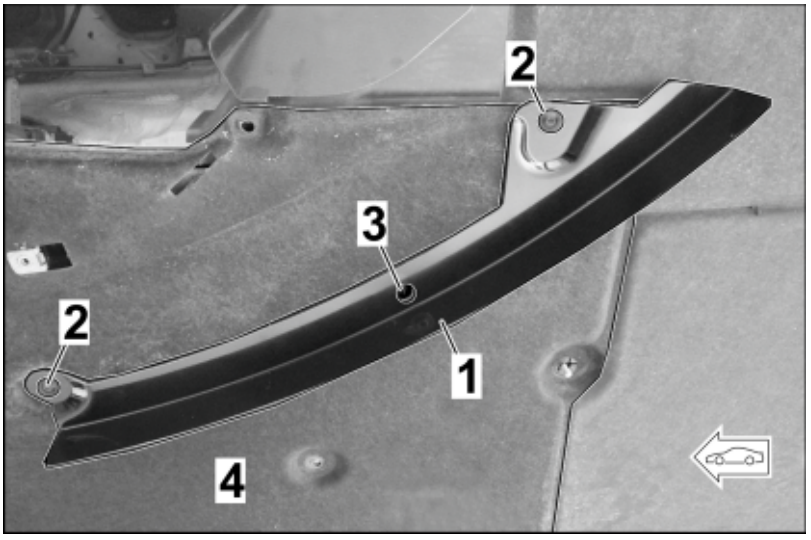

Figure 34

1 – Air control element (inside), left side
2 – Rear fastening points (front/rear)
3 – Fastening point (center)
4 – Underbody cover (front)

6.2.2 Replicate middle hole in air control element (inside ⇒*Figure 34* -**3**-) on the underbody cover (front).

6.2.3 Remove the air control element (inside) again.

6.2.4 Remove underbody cover (front). ⇒*Workshop Manual '519219 Removing and installing cover for front underbody'*

6.2.5 Drill a hole ∅ = 6.5 mm (0.25 in) at the marking.

6.2.6 Position the respective air control element (inside) on the underside of the underbody cover (front, left/right side) at the fastening points (front/rear).

6.2.7 Mount the air control element (inside) on the underside of the underbody cover (front) with a new M6 x 30 screw and M6 flange nut at the fastening point (center).
Tightening torque 10 Nm(7.38 ft-lb)

6.2.8 Install underbody cover (front). ⇒*Workshop Manual '519219 Removing and installing cover for front underbody'*

6.3 Pre-assemble new air control elements at the front

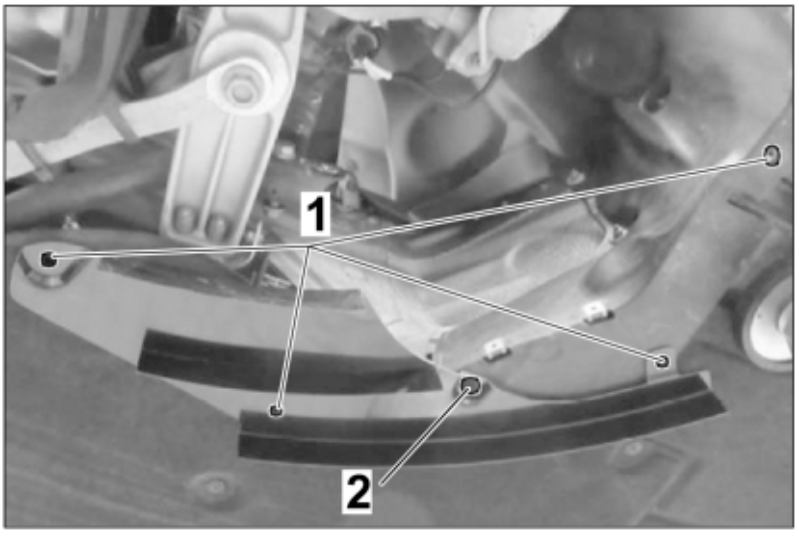

Figure 35

1 – Tapping screw
2 – Front air control element (left side)

6.3.1 Removing tapping screws (⇒*Figure 35* -**1**-)

6.3.2 Pre-assemble the air control element (front) with a new ST4.8 x 19 tapping screw with collar (fastening kit included) on the underbody on the left-hand side (⇒*Figure 35*).

6.4 Installing new air control elements at the rear

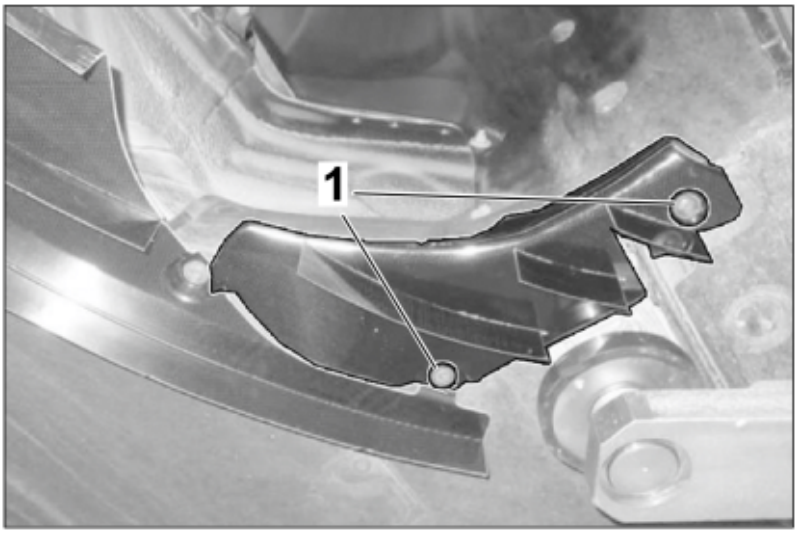

Figure 36

1 – ST4.8 x 19 tapping screw with collar

6.4.1 Mount air control element (rear 991.044.806.12) with ST4.8 x 19 tapping screws with collar (2 pcs. ⇒*Figure 36* **-1-**) on the underbody on the left side (⇒*Figure 36*).
Tightening torque 3.2 Nm (2.36 ft-lb)

6.4.2 Fasten the air control element (rear) with two more ST4.8 x 16 tapping screws without collar in the area of the wheel arch (⇒*Figure 37*).
Tightening torque 3.2 Nm (2.36 ft-lb)

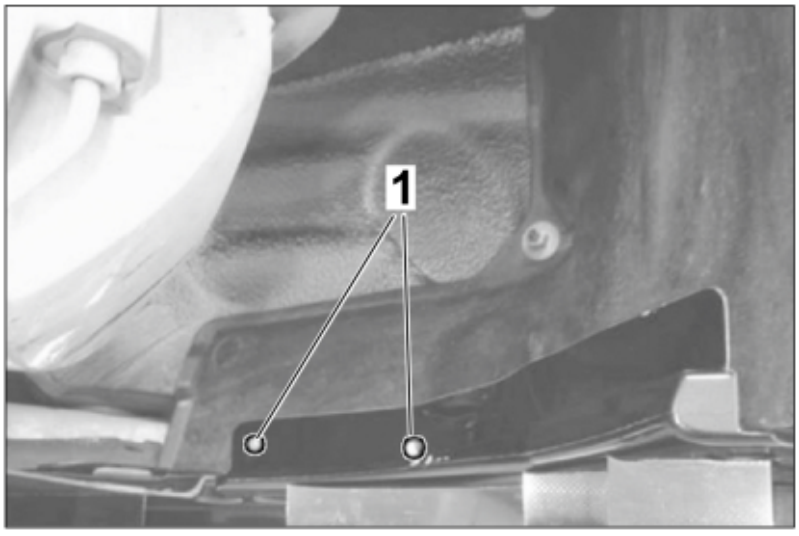

Figure 37

1 – ST 4.8 x 16 tapping screw

6.5 Finally, fastening the air control elements (front) and air control element (inside)

6.5.1 Fasten the air control element (front) to the underbody with two more ST4.8 x 19 TX27 tapping screws with collar (⇒*Figure 38*).

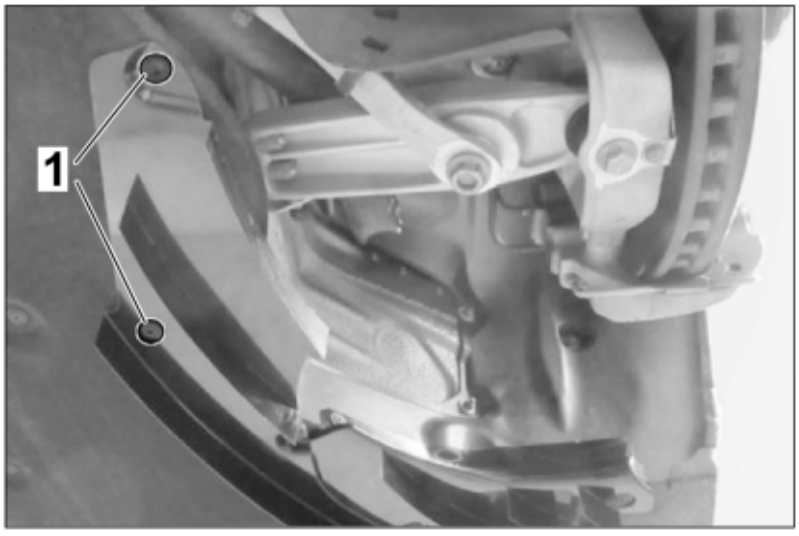

Figure 38

1 – ST4.8 x 19 tapping screws with collar

Tighten all screws. **ST 4.8 x 19 tapping screw: Tightening torque 3.2 Nm (2.36 ft-lb)**

6.5.2 Fasten the air control element (inside) with ST 4.8 x 19 screws in the front/rear to the underbody cover (front) (⇒ *Figure 39*).
Tightening torque 3.2 Nm (2.36 ft-lb)

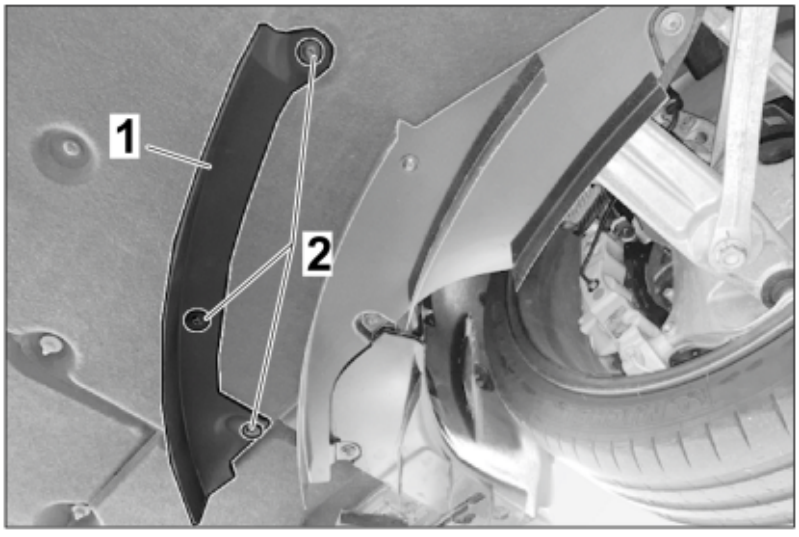

Figure 39

1 – Air control element (inside)
2 – Fastening points

6.6 The air control elements are installed on the right-hand side of the vehicle in the same way.

7 Installing the rear underbody panel (diffuser)

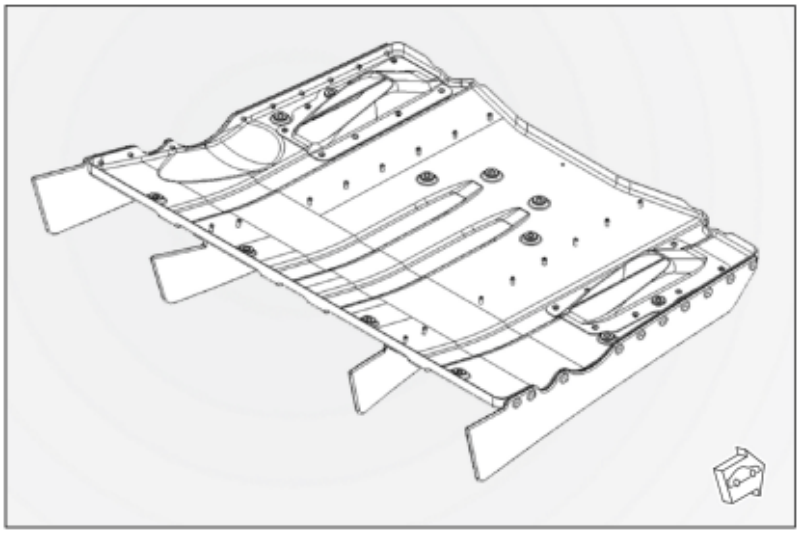

Figure 40 — Rear underbody panel (diffuser), complete — 991.044.806.07

7.1 Remove rear underbody cover (diffuser). ⇒ *Workshop Manual '51941925 Removing and installing rear underbody cover'*

7.2 Mount new underbody panel (rear).

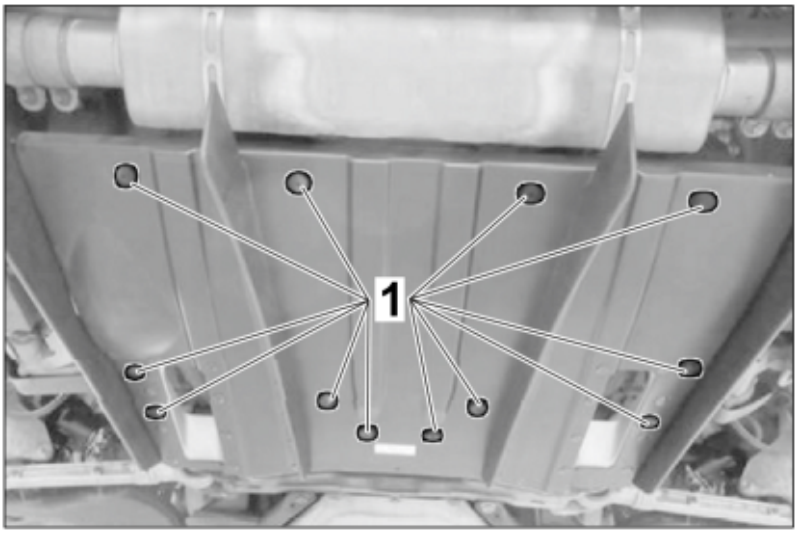

Figure 41

1. – Install underbody (rear) with previous screw (12 pcs., ⇒ *Figure 41* **-1-**. **Screw: Tightening torque 10 Nm (7.38 ft-lb)**

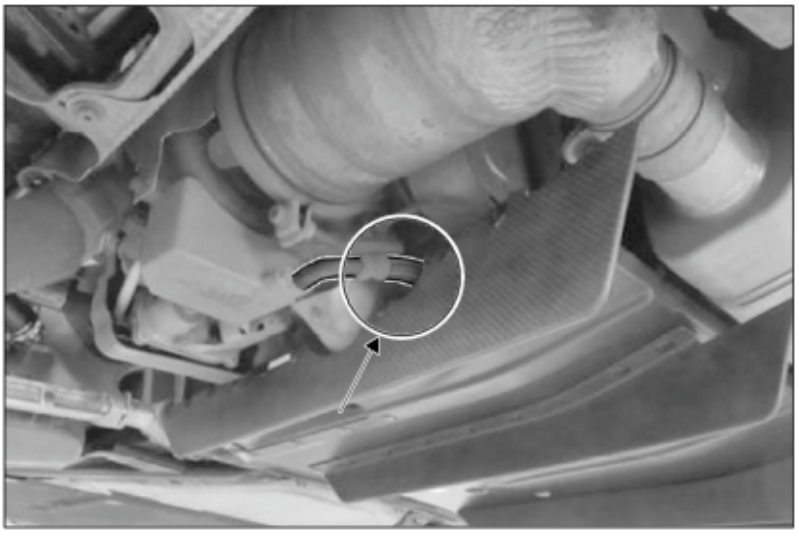

Figure 42

2. – Make sure there is sufficient space between the fin and oil supply line for the turbocharger. The line and fin (⇒ *Figure 42* **-Arrow-**) must not touch!

8 Conversion of mounting brackets, trunk lid and rear wing.

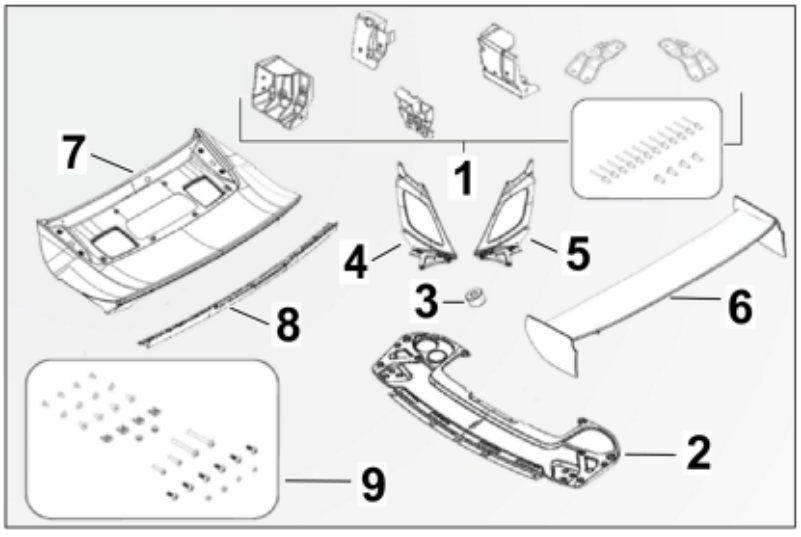

Figure 43

⇒ ***Figure 43* -1-** – Rear body reinforcement set
⇒ ***Figure 43* -2-** – Mounting bracket GT2 RS kit — 991.044.806.08
⇒ ***Figure 43* -3-** – Mounting bracket spacer
⇒ ***Figure 43* -4-** – Left wing support GT2 RS kit — 991.044.806.05
⇒ ***Figure 43* -5-** – Right wing support GT2 RS kit — 991.044.806.06
⇒ ***Figure 43* -6-** – Rear wing GT2 RS kit — 991.044.806.17
⇒ ***Figure 43* -7-** – Trunk lid CFK GT2 RS kit — 991.044.806.25

⇒ ***Figure 43*** **-8-** – Gurney GT2 RS kit — 991.044.806.26
⇒ ***Figure 43*** **-9-** – Aero parts fastening kit — 991.044.806.30
⇒ ***Figure 43*** **---** – **Body adhesive is also required**

Scope of parts for "Rear body reinforcement" set (⇒ *Figure 43* **-1-**):

991.044.806.19	1 x	Reinforcement for left tail light mounting, inside
991.044.806.20	1 x	Reinforcement for right tail light mounting, inside
991.044.806.21	1 x	Reinforcement for left tail light mounting, outside
991.044.806.22	1 x	Reinforcement for right tail light mounting, outside
991.044.806.23	1 x	Reinforcement for rear sealing channel, left
991.044.806.24	1 x	Reinforcement for rear sealing channel, right
991.044.806.18	1 x	Reinforcement fastening, set

8.1 Remove rear apron. ⇒ *Workshop Manual '51941925 Removing and installing rear apron'*

8.2 Remove and dismantle rear lid. ⇒ *Workshop Manual '51941925 Replacing rear lid'*

8.3 Remove lock base. ⇒ *Workshop Manual '51941925 Removing and installing rear lid lock base (cover)'*

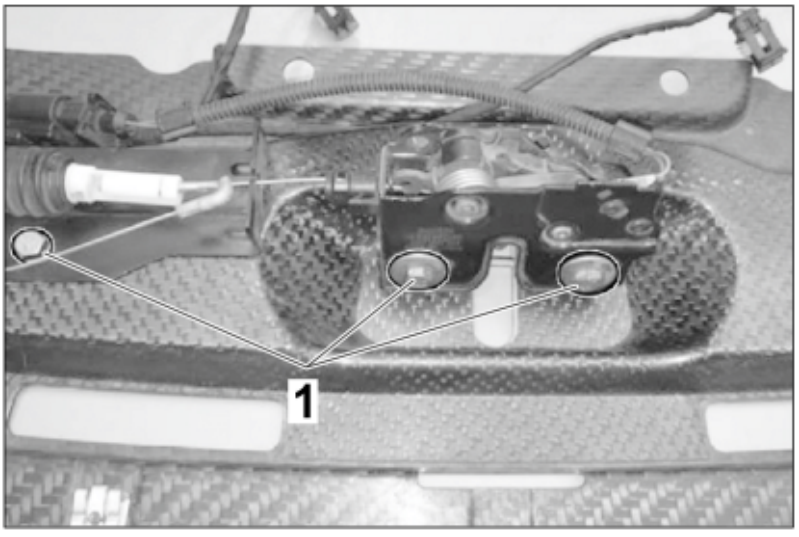

Figure 44

1. – Place the mounting bracket on a suitable surface and remove the lock unit and the complete cable harness, including all retaining clips. Remove the fastening screws ⇒ *Figure 44* **-1-** on the lock unit. Remove the cable harness with all retaining clips from the standard mounting bracket.

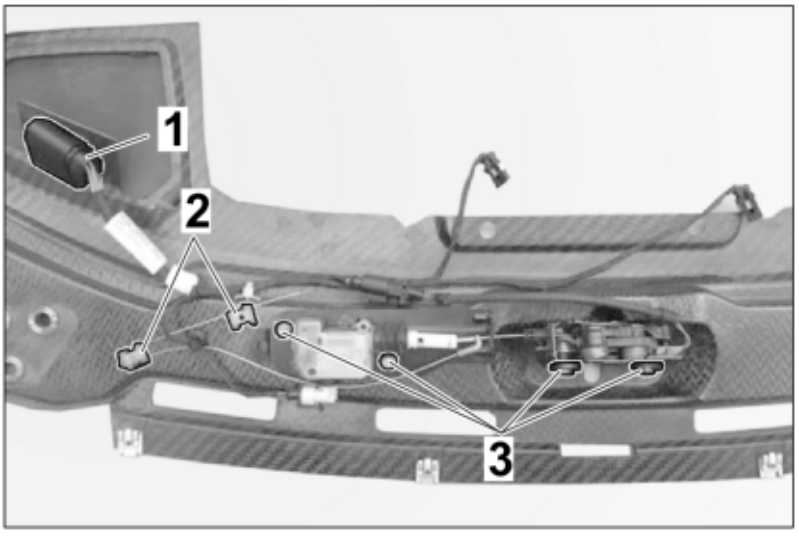

Figure 45

2. – Mount the lock unit and the cable harness on the new mounting bracket. Start by assembling the lock unit. Fasten it with the standard screws at the specified points ⇒ *Figure 45* **-3-**. **Screw: Tightening torque 8 Nm (5.90 ft-lb).** The two marked retaining clips for the wire cable of the emergency release ⇒*Figure 45* **-2-** cannot be used. If the retaining pin of these clips is pressed inwards, they can no longer be used.

3. – Next, attach the 12-pin central plug of the mounting bracket. Use the standard retaining clip for this ⇒*Figure 45* **-1-**. The other fastening points then come about automatically.

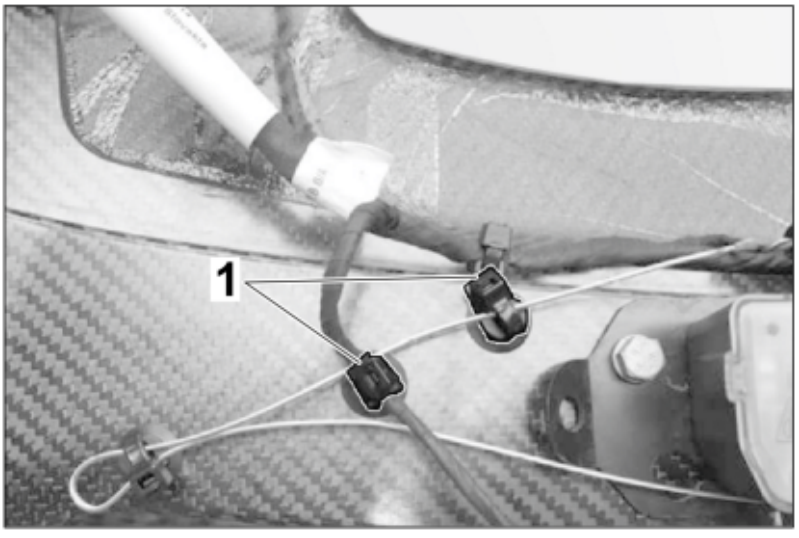

Figure 46

4. – Place new retaining clips (included) at the points shown ⇒*Figure 46* **-1-** into the mounting bracket and fasten the wire cable for the emergency release as shown opposite. Set the mounting bracket aside until it is ready to be installed to the vehicle.

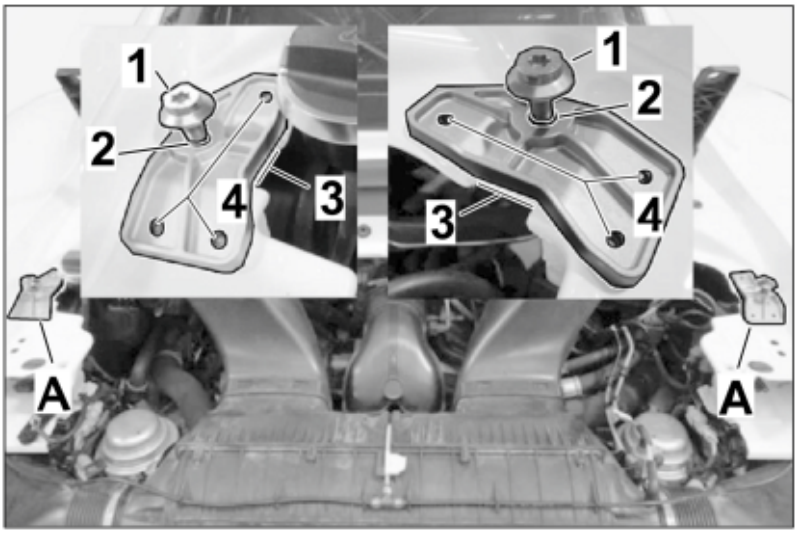

Figure 47

5. – Place the two stiffeners (991.044.806.23) and (991.044.806.24) in the positions shown on the left and right of the rear frame ⇒*Figure 47* **-A-**.

6. – For exact positioning, a fastening screw of the mounting bracket is screwed through the stiffener into the fastening point of the body ⇒*Figure 47* **-1-**.

7. – Align the hole in the component centerd around the screw ⇒*Figure 47* **-2-**.

8. – In addition, align the component parallel to the sheet metal edge of the rear frame ⇒*Figure 47* **-3-**.

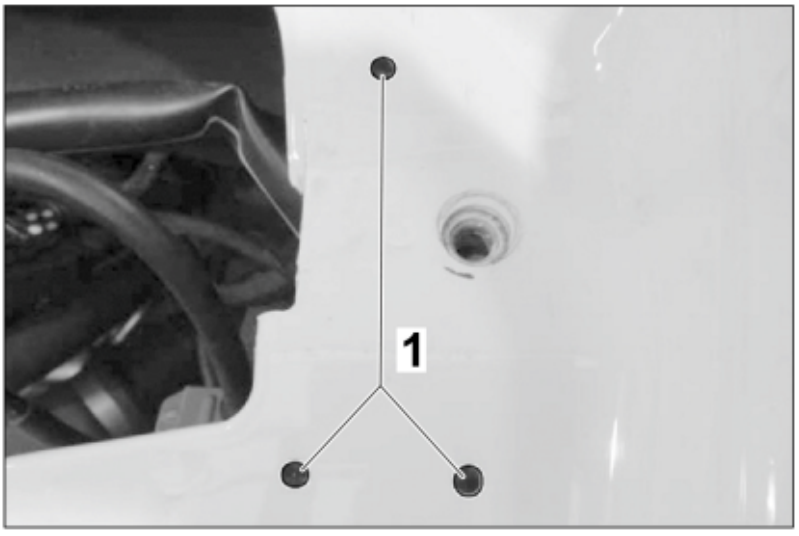

Figure 48

10. – Drill holes with a diameter of 5.0 mm (0.20 in). Then remove the component in order to de-burr the holes. **Important:** When making the holes, pay attention to the cables and components underneath.

Figure 49

11. – Clean the area ⇒*Figure 49* **-1-** for fastening the stiffeners with isopropanol. This step is necessary for the subsequent bonding. **Note:** The adhesive required for bonding the components must be ordered separately.

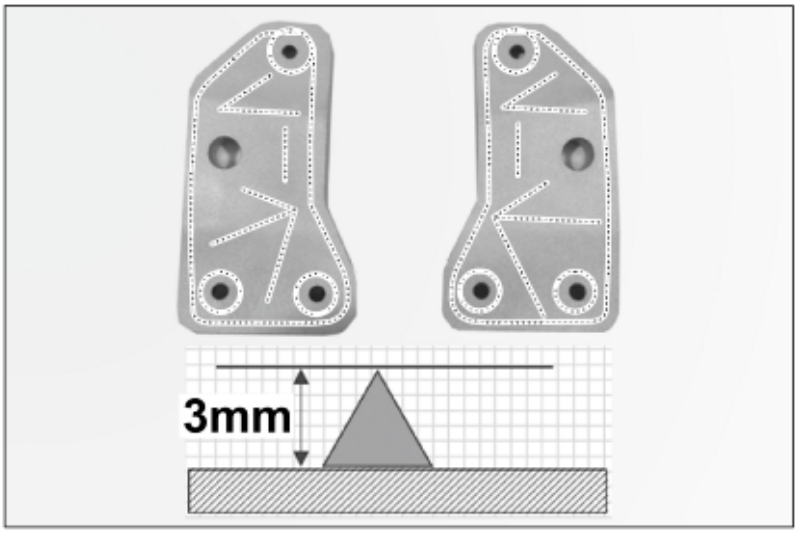

Figure 50

12. – Clean the adhesive surfaces (underside) on the stiffeners with isopropanol. Apply a triangular adhesive bead 3 mm (0.12 in) high according to the adhesive pattern shown above ⇒*Figure 50*.

Figure 51

13. – Position the stiffener and align it with the holes made in step 2. Finally, attach the component with the three supplied blind rivets. **Note:** A minimal lateral leakage of adhesive is desired. Note that the curing time of the adhesive is 24 hours at an ambient temperature between 15 °C and 25 °C (59 °F and 77 °F). Use pneumatic rivet pliers to set the blind rivets.

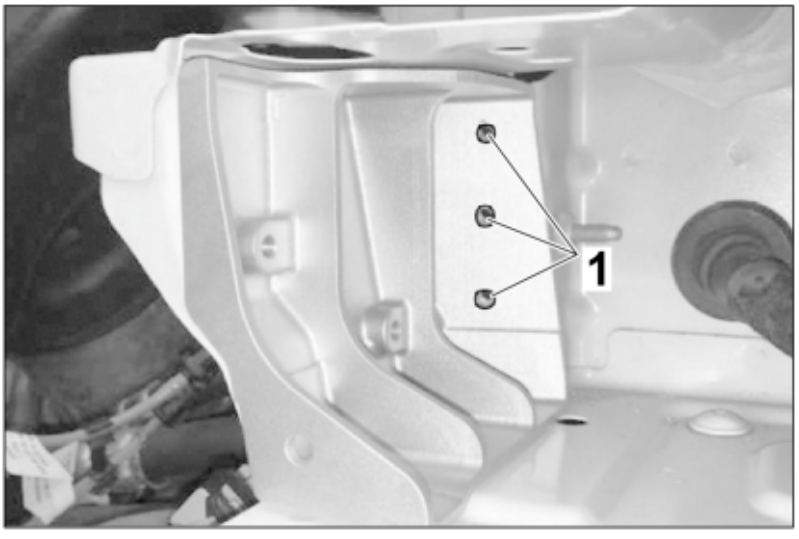

Figure 52

14. – Insert the stiffener (991.044.806.20) on the inside of the right lamp box. Replicate the three required holes on the lamp box and remove the component again for the following work steps ⇒*Figure 52* **-1-**.

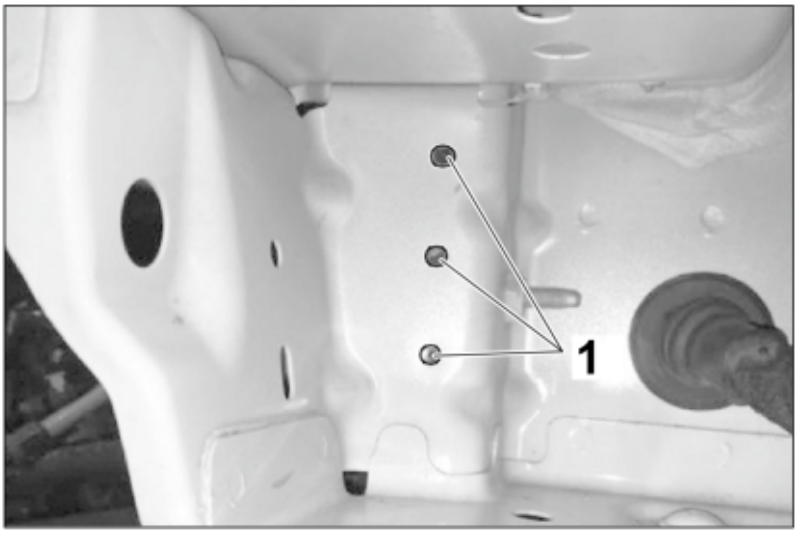

Figure 53

15. – Center-punch the drill holes. Drill holes with a diameter of 5.0 mm (0.20 in) at the markings. The holes must be deburred ⇒*Figure 53* **-1-**. **Important:** When making the holes, pay attention to the cables and components underneath.

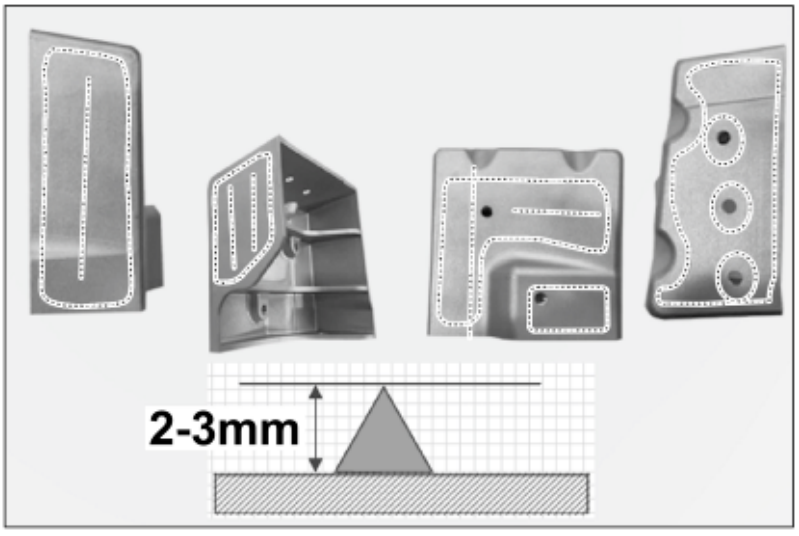

Figure 54

16. – Clean all contact surfaces in the lamp box and on the stiffener with isopropanol. Apply a triangular adhesive bead of 2-3 mm (0.08–0.12 in) on the indicated adhesive surfaces according to the pattern shown.

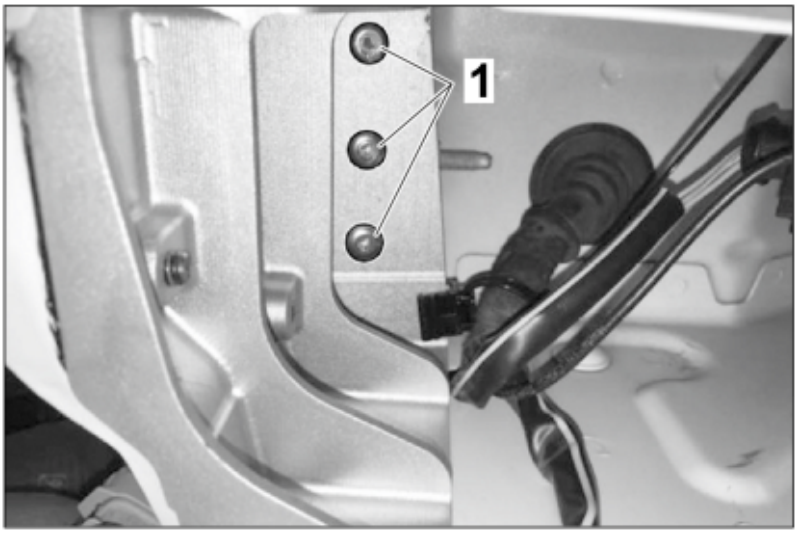

Figure 55

17. – Position the stiffener and align it with the drill holes. Finally, attach the component with the three supplied blind rivets ⇒*Figure 55* **-1-**. **Note:** A minimal lateral leakage of adhesive is desired. Note that the curing time of the adhesive is 24 hours at an ambient temperature between 15 °C and 25 °C (59 °F and 77°F). Use pneumatic rivet pliers to set the blind rivets.

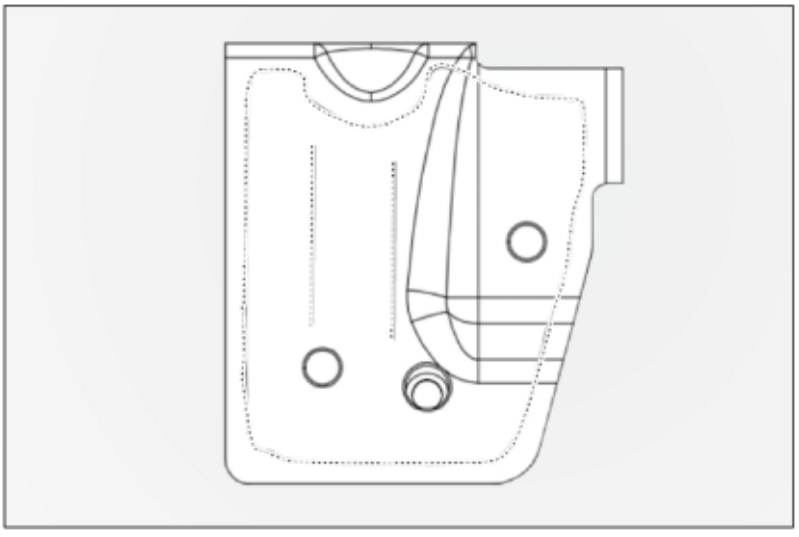

Figure 56

18. – Prepare the outer stiffener (991.044.806.22) for the right lamp box for installation. Clean the adhesive surface on the component and on the body with isopropanol. Apply a 2-3 mm (0.08–0.12 in) high triangular bead of adhesive on the back of the outer stiffener according to the pattern shown above.

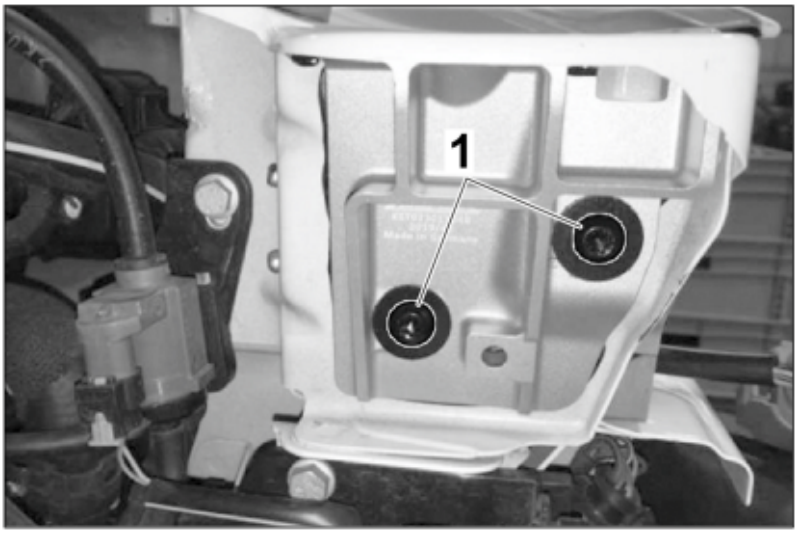

Figure 57

19. – Screw the two stiffeners from the outer stiffener with the supplied **M6 x 16 collar screws** (2 pcs.): **Tightening torque 10 Nm (7.38 ft-lb).**

20. – The stiffeners on the left side are mounted in the same way.

8.4 Assembly of the new mounting bracket/lock base.

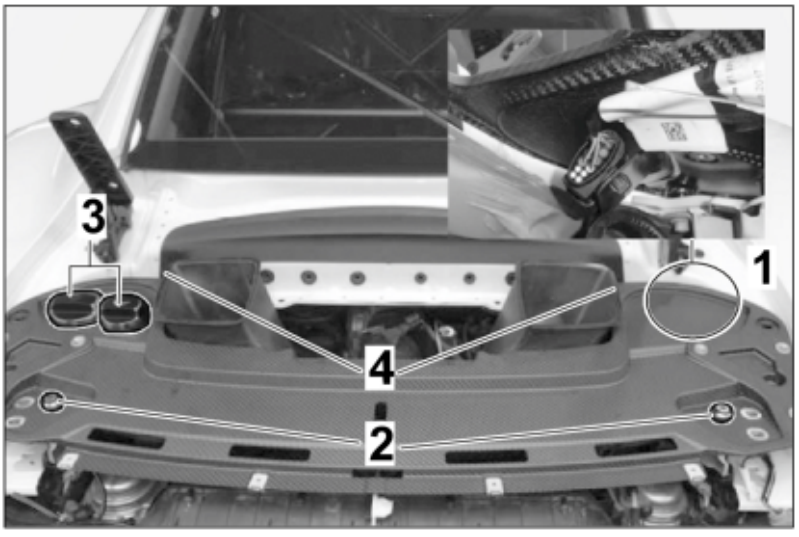

Figure 58

21. – Place the new mounting bracket on the vehicle.

22. – When attaching the mounting bracket, the central plug must be reconnected to the plug on the vehicle ⇒*Figure 58* **-1-**.

23. – Place two of the standard screws at the lower fastening points by hand ⇒*Figure 58* **-2-**.

24. – install the two sealing caps for engine oil and cooling water ⇒*Figure 58* **-3-**.

25. – Fasten the mounting bracket behind the left air inlet with a new M6 x 30 screw ⇒ *Figure 58* **-4-**.

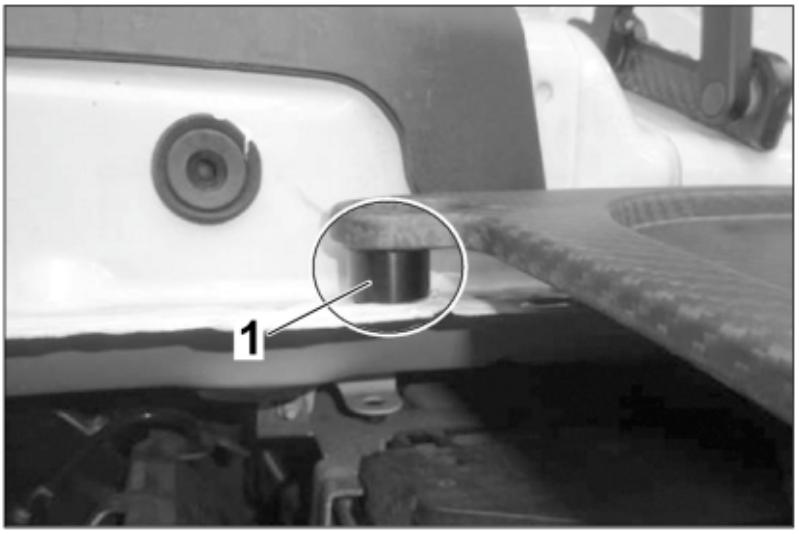

Figure 59

26. – On the right-hand side behind the air inlet (here dismantled for illustration), the supplied spacer must be placed between the mounting bracket and the body. It is fastened with a new M6 x 30 screw and a nut with a washer. **Tightening torque 8 Nm (5.90 ft-lb)**

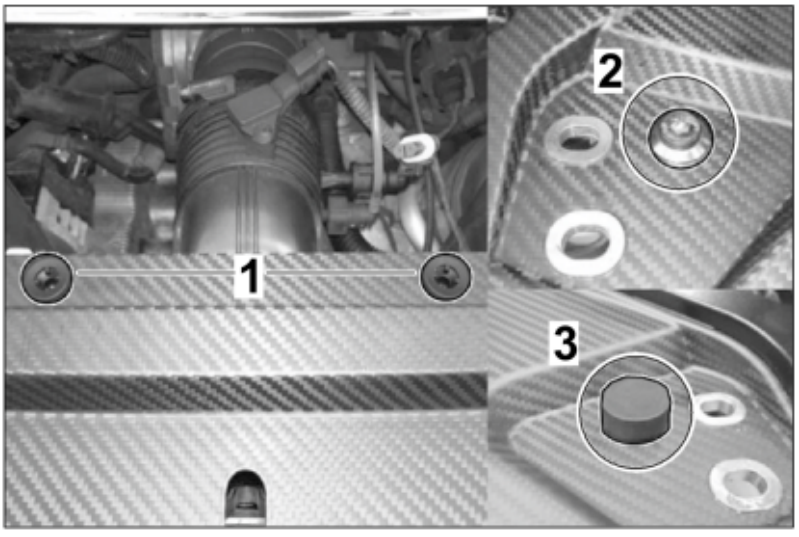

Figure 60

27. – Mount rubber stopper ⇒ *Figure 60* **-1-** (engine compartment flushing fan mount) in the mounting bracket.

28. – Tighten standard screws (step 23) ⇒ *Figure 58* **-2-**: **Tightening torque 35 Nm (25.81 ft-lb)**

29. – Install caps ⇒*Figure 60* **-3-**.

30. – Establish electrical plug connection (fan control) to engine compartment flushing fan. Mount the engine compartment flush fan in rubber stopper, making sure that the electrical cable is not touching/chafing anywhere.

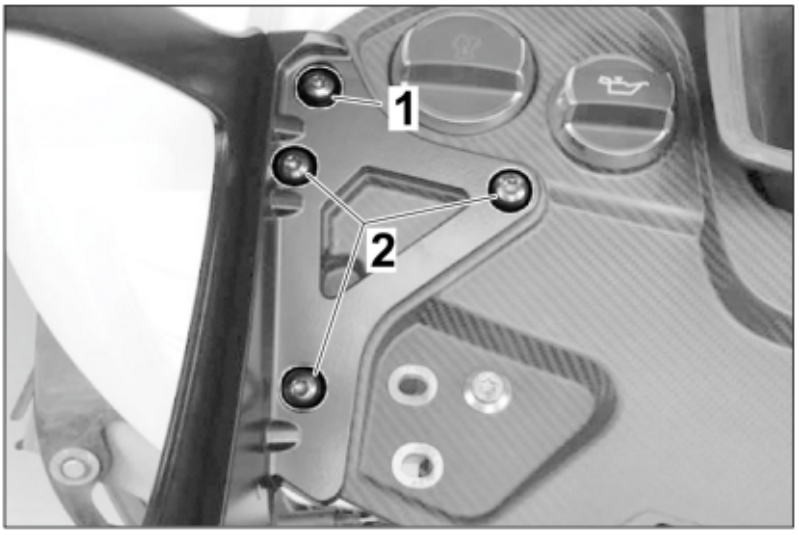

Figure 61

31. – Position the new wing support and fasten it with three M8 x 30 screws at the points ⇒*Figure 61* **-2-** shown and with an M8 x 60 screw at the upper fastening point ⇒*Figure 61* **-1-**. **Tightening torque: 30 Nm (22 ft-lb)**

32. – The wing support is installed on the right-hand side of the vehicle in the same way.

8.5 Install rear apron. ⇒*Workshop Manual '51941925 Removing and installing rear apron'*

8.6 Installation of new trunk lid and gurney.

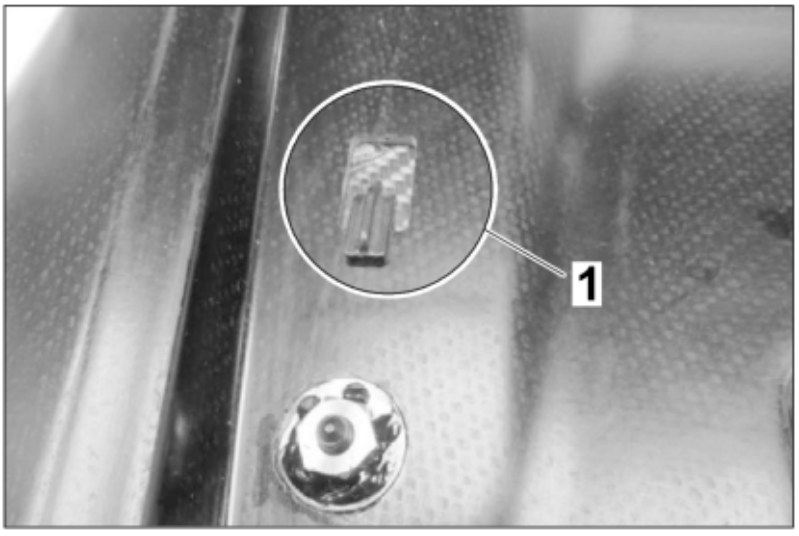

Figure 62

33. – Place the new trunk lid on the hinges. Check That the retaining lugs on the hinges snap into the recesses in the rear cover ⇒*Figure 62* **-1-**.

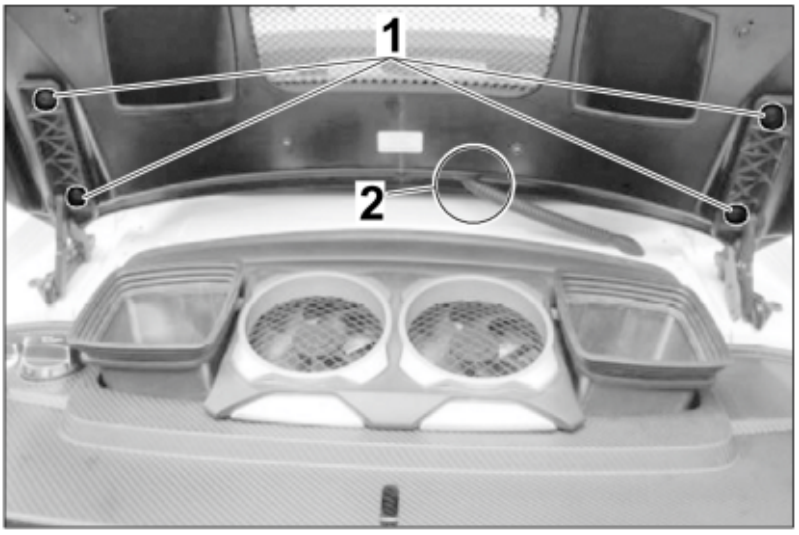

Figure 63

34. – Fasten the trunk lid with the standard screws ⇒*Figure 63* **-1-**. Insert the standard wiring harness for the third brake light through the opening in the trunk lid ⇒*Figure 63* **-2-**. Check that the rubber sleeve is installted correctly. Close the trunk lid and, if necessary, correct the gap dimensions at the transitions to the adjacent body parts.
Screw: Tightening torque 10 Nm (7.38 ft-lb)

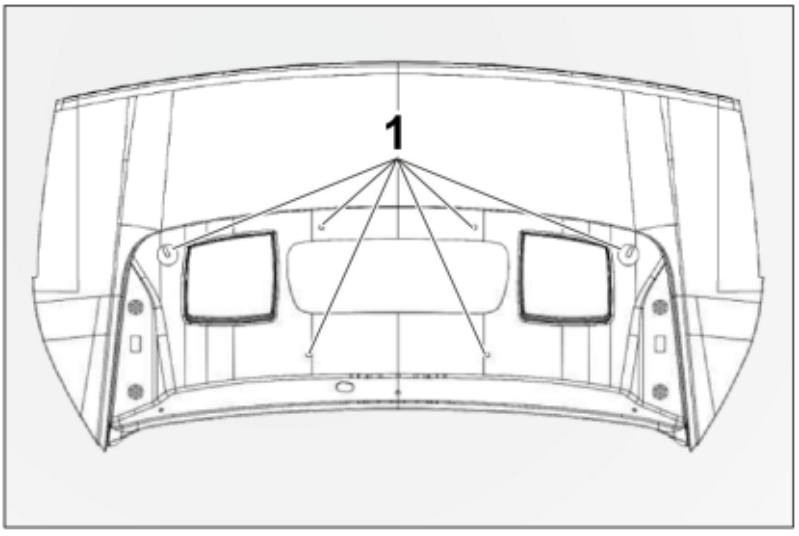

Figure 64

35. – Attach the supplied spacers for the upper air intake to the fastening points ⇒*Figure 64* **-1-** shown. **Note:** The spacers should be glued on with SIKAFLEX N260. They will then adhere to the trunk lid, but their position can still be shifted.

Figure 65

36. – Mount the upper air inlet with the standard screws ⇒*Figure 65* **-1-**. When installing the air inlet, the connector for the third brake light must be plugged in.

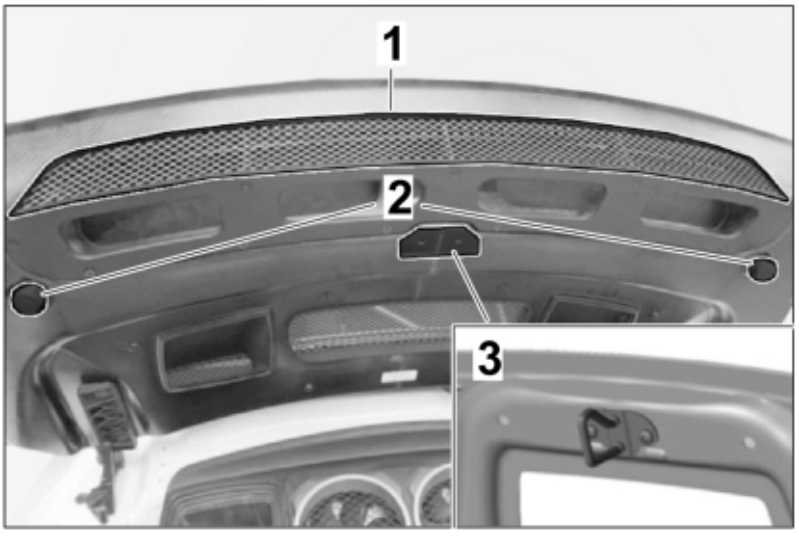

Figure 66

37. – Mount the rear exhaust grille on the new trunk lid with new screws (M5 x 20).

38. – Mount the stop buffer (standard).

39. – Mount lock hook with **NEW** microencapsulated screws (2 pcs.). **Tightening torque 10 Nm (7.38 ft-lb)**

Renew the engine identification sticker on the cover on the right.

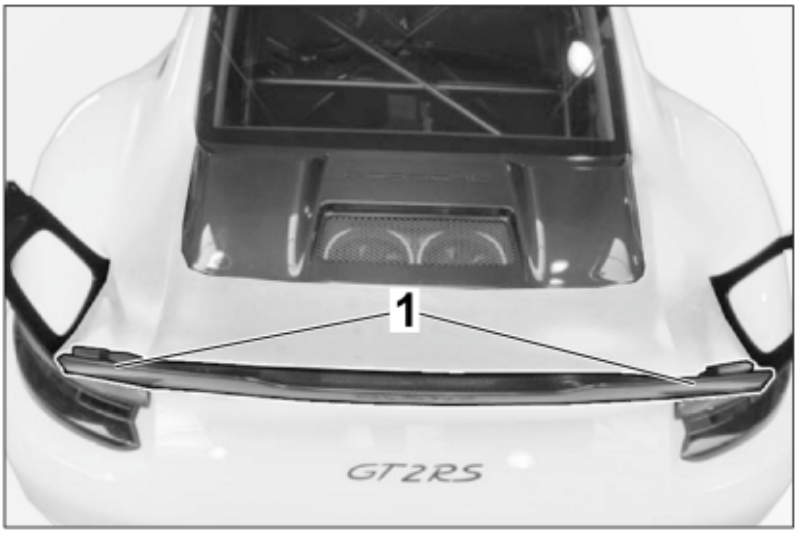

Figure 67

40. – Clean the adhesive areas for the Gurney on the top and back of the trunk lid with isopropanol ⇒*Figure 67* **-1-**.

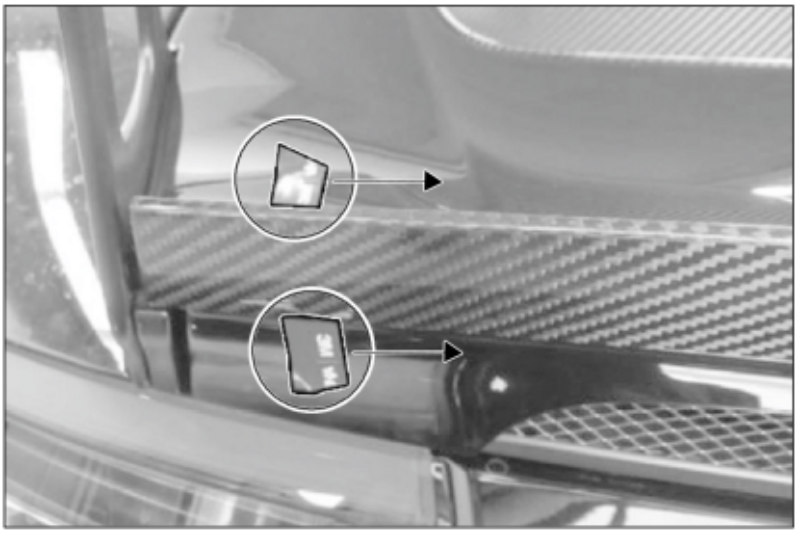

Figure 68

41. – Put on gurney. **Note:** Make sure there is an even gap between the gurney and the rear wing bracket. This must be the same on both sides.

42. – Remove approx. 5 cm (1.97 in) of the backing film from the adhesive strip on the gurney and position this piece of the film such that it protrudes when the gurney is attached ⇒*Figure 68*.

43. – First, slowly pull the backing film from under the gurney at the rear of the trunk lid while pressing the gurney firmly against the trunk lid. In the next step, pull off the carrier film at the top between the gurney and the trunk lid and press the gurney firmly

against the trunk lid ⇒*Figure 68*. **Note:** Press the adhesive surfaces as flat as possible for at least 10 seconds

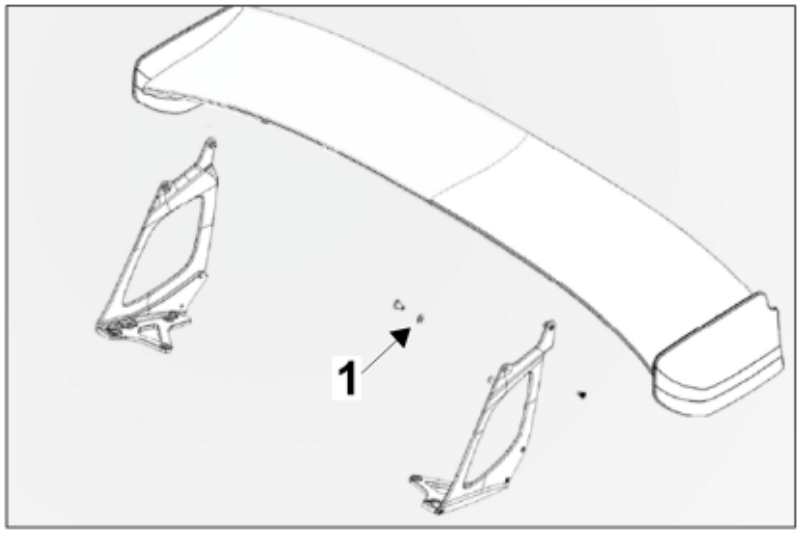

Figure 69

44. – **Note:** Make sure to position the standard spacers ⇒*Figure 69* **-1-** between the wing and wing support connection during assembly. Failure to observe this can lead to damage.

45. – Mount the new rear wing on the wing supports. **Note:** The standard screws can be re-used, but must be inserted with screw locking agent "Loctite 241" when reassembling. **Tightening torque 10 Nm (7.38 ft-lb)**

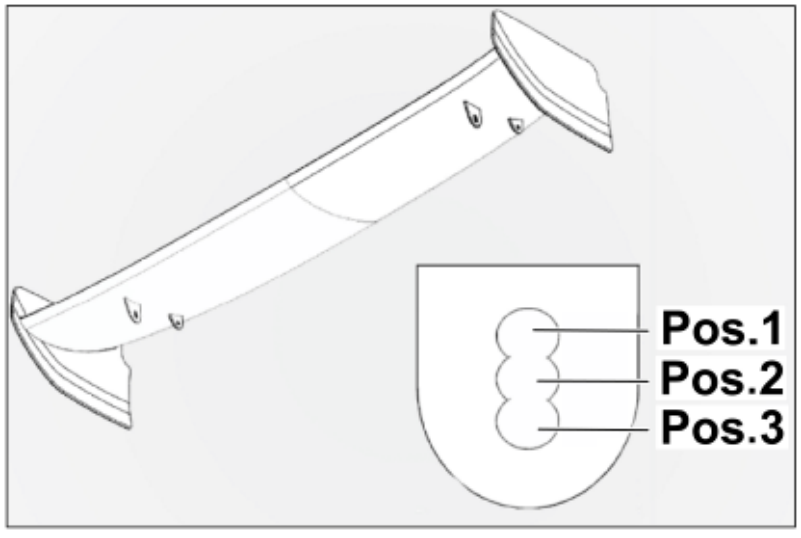

Figure 70

46. – The incline of the rear wing can be adjusted using three holes in the front fastening straps ⇒*Figure 70*. Wing position 3 represents the standard setting (delivery status).

9 Mounting of the wheel covers on the rear axle wheels.

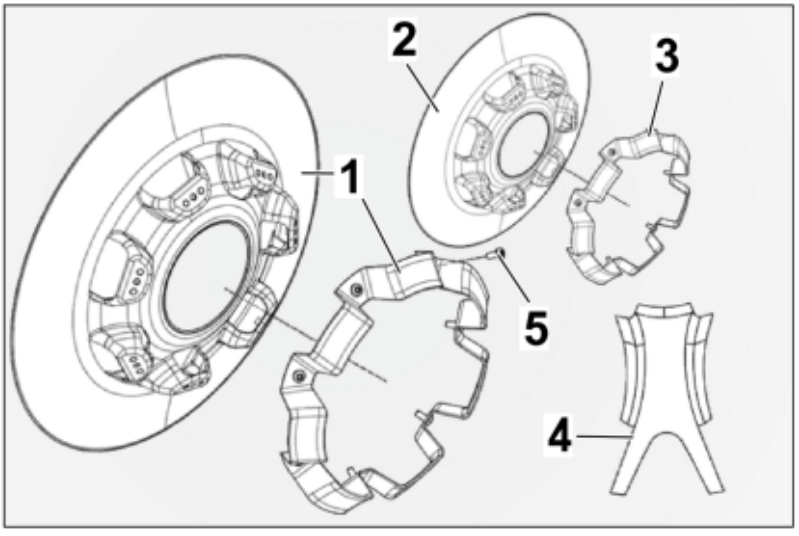

Figure 71

⇒ ***Figure 71*** **-1-** – Set of wheel covers for magnesium rims — 991.044.806.27
⇒ ***Figure 71*** **-2-** – Wheel cover
⇒ ***Figure 71*** **-3-** – Fastening ring
⇒ ***Figure 71*** **-4-** – Rim protection sticker — 991.044.806.29
⇒ ***Figure 71*** **-5-** – M5 x 12 pan-head screw

9.1 Install wheel covers.

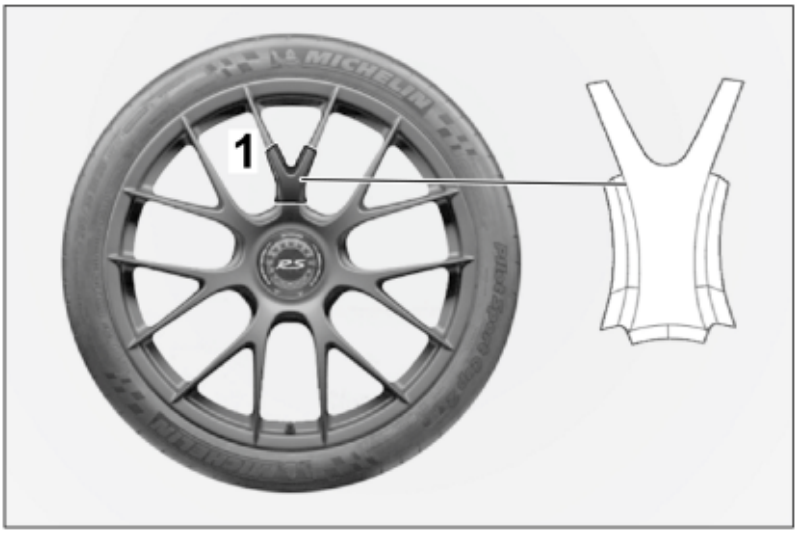

Figure 72

1. – Clean the surfaces for installting the rim protectors on the front and sides ⇒ *Figure 72* **-1-** on all spokes (7 x) of each wheel. Before attaching the wheel covers, the adhesive areas for the rim protectors on the new rims must be degreased using a suitable

cleaning agent. (Isopropanol). Rims that have already been used must be thoroughly cleaned and freed from brake abrasion.

2. – Attach a rim protector to all seven spokes. Make sure to adhere the side wings of the stickers carefully around the spokes in order to counter the restoring forces of the film on the side wings. Use a hot air gun if necessary. **Important:** If the rim protectors are not attached, there may be chafing points on the paint surface. Please perform a visual inspection every time you dismantle them and replace if damaged!

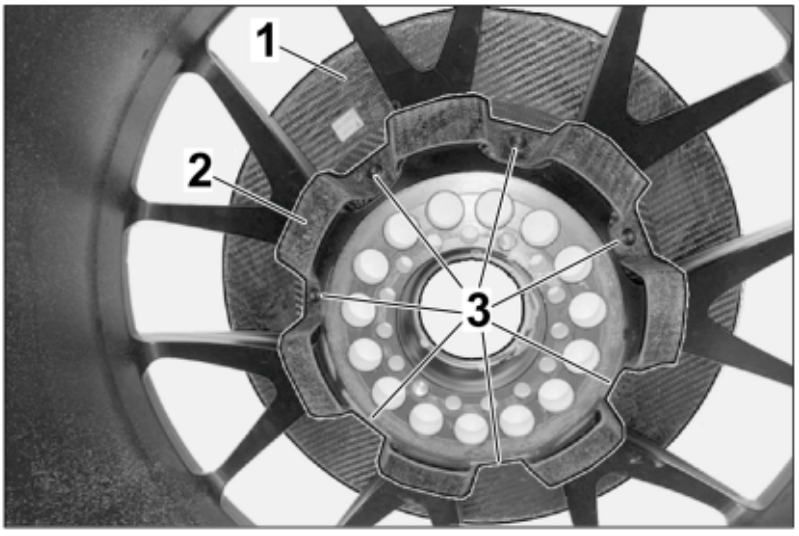

Figure 73

3. – Put the wheel cover ⇒*Figure 73* **-1-** into the rim from the front. Make sure to push the wheel cover completely into the rim.

4. – Attach the fastening ring ⇒*Figure 73* **-2-** from within.

5. – Attach the ring to the wheel cover with **M5 x 12 pan-head screws**⇒*Figure 73* **-3-**(7 pcs.): **Tightening torque 2.5 Nm (1.84 ft-lb)**

6. – The wheel cover on the second rear axle wheel is assembled in the same way.

7. – **Important:** Balance wheels **AFTER** mounting the wheel covers. ⇒*Workshop Manual '51941925 Balancing/optimising wheels'*

9.2 Install all four wheels. ⇒*Workshop Manual '51941925 Removing and installing wheel with central bolt'*

Information

Flush new water tank SEVERAL times with water WITHOUT additives before installation!

10 installing additional water tank (⇒*Figure 74* **-1-**)

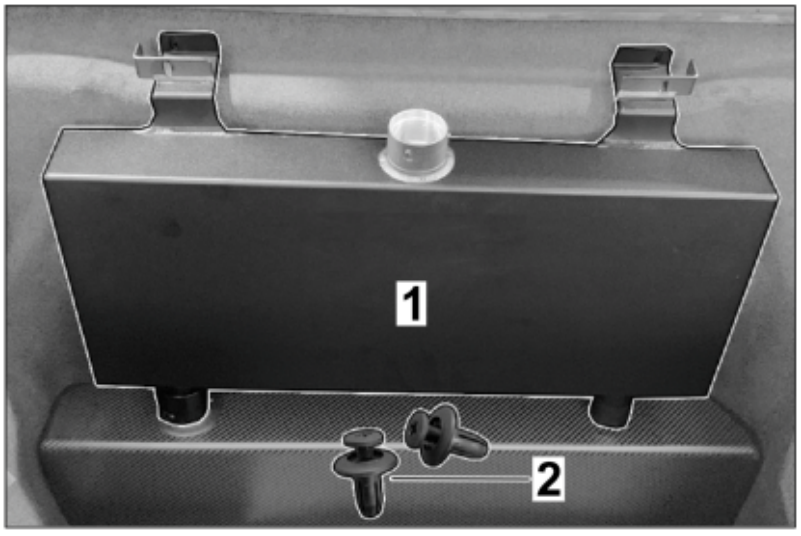

Figure 74

1 – Additional water tank for charge-air cooler — 991.044.806.39
2 – Stopper securing water tank (new)

10.1 Expose water tank (standard)

10.1.1 Remove warning triangle from the luggage compartment.

10.1.2 Remove stopper on the warning triangle holder (⇒*Figure 75* **-1-** left / right) and remove holder (⇒*Figure 75* **-2-**).

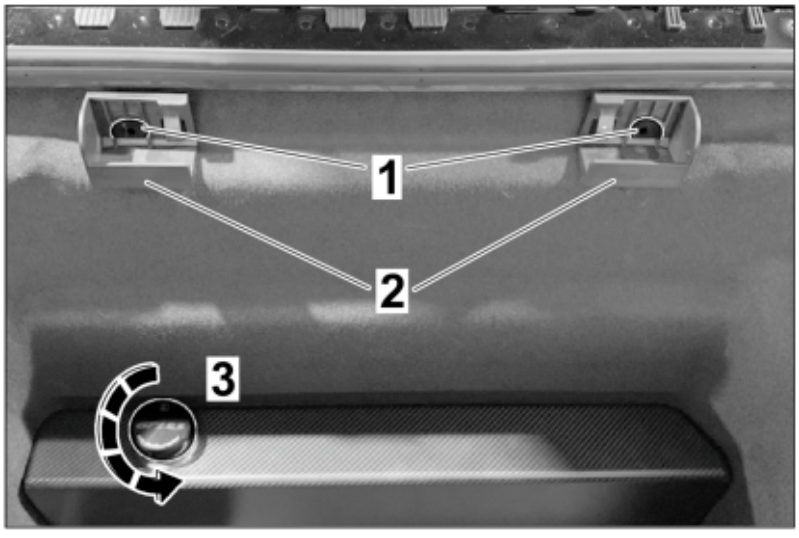

Figure 75

1 – Plug
2 – Warning triangle holder
3 – "GT2 RS" cap

10.1.3 Remove “GT2 RS” cap (⇒ *Figure 75* **-3-**) on the water tank and remove strainer.

Remove “GT2 RS” cap and filter for water tank (standard) for later use.

10.1.4 Carefully remove carbon trim on standard tank (⇒ *Figure 76* **-2-**) by detaching hook-and-loop fasteners.

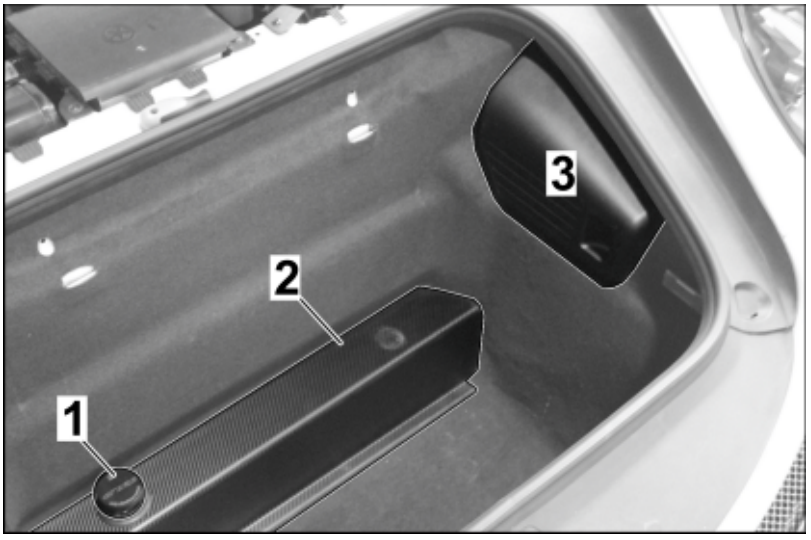

Figure 76

1 – Water tank cover
2 – Carbon trim on water tank (standard)
3 – Tool kit bracket

10.1.5 Carefully remove tool kit bracket (⇒ *Figure 76* **-3-**).

10.2 **ONLY** for USA vehicles: Bracket for warning triangle differs in design.

Transfer bores behind the luggage compartment trim panel in the warning triangle area to the luggage compartment trim panel.

Carefully cut out bores from the luggage compartment trim panel.

10.3 Routing vent line for water tank (new)

10.3.1 Disconnect vent line from water tank (standard) (⇒ *Figure 77*).

Pull white retaining clip upwards (⇒ *Figure 77* **-A-**) and remove line from water tank (⇒ *Figure 77* **-B-**)

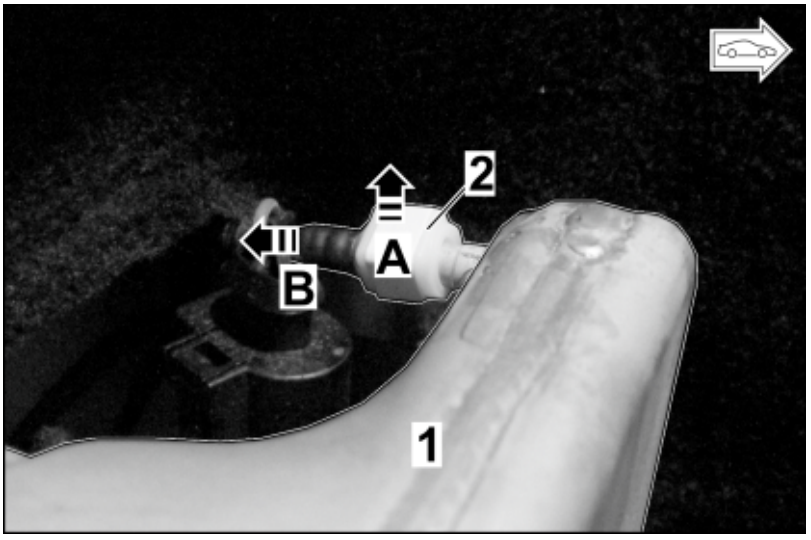

Figure 77

1 – Water tank (standard)
2 – Vent line

10.3.2 Close off tank ventilation on the water tank (standard) using white dummy plugs from a new auxiliary tank and supplied pipe clamp (⇒*Figure 78*).

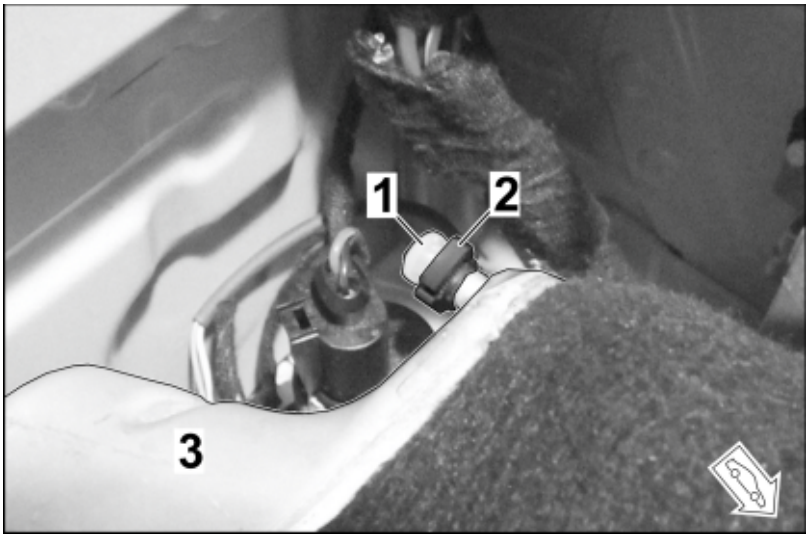

Figure 78

1 – Dummy plug (from water tank (new))
2 – Pipe clamp
3 – Water tank (standard)

10.3.3 Remove luggage compartment carpet at the left / bulkhead (left side) and fold over.

10.3.4 Remove plastic cover (black) over wiring harness (⇒*Figure 79*).

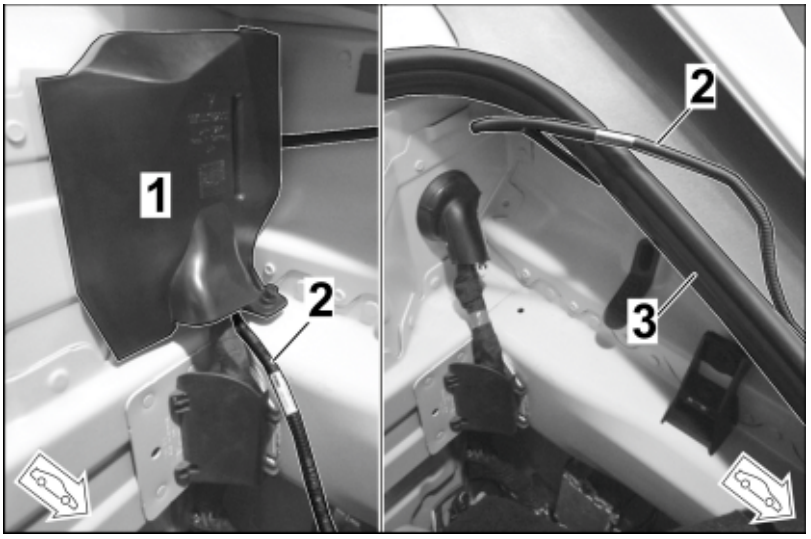

Figure 79

1 – Plastic cover (black)
2 – Water tank (standard) vent line
3 – Luggage compartment seal

10.3.5 Route water tank (standard) vent line along lines without chafing to the luggage compartment seal facing up at the left in the luggage compartment.

10.3.6 Re-install plastic cover (black) over wiring harness and luggage compartment carpet at the left / bulkhead (left side).

10.3.7 Carefully install tool kit bracket (⇒*Figure 80*).

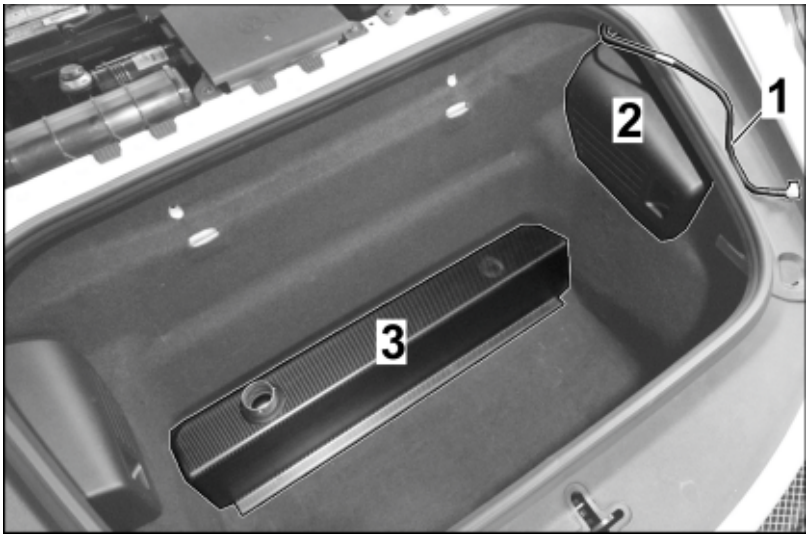

Figure 80

1 – Water tank (standard) vent line
2 – Tool kit bracket
3 – Carbon cover for water tank (standard)

10.3.8 Carefully install carbon cover for water tank (standard).

10.4 Installing new additional water tank

10.4.1 Spray drain socket on the water tank (new) for assembly on the water tank (standard) intake socket with Teflon spray.

10.4.2 Place water tank (new) drain socket on the water tank (standard) intake socket and press it downwards (⇒*Figure 81* **-1-**)

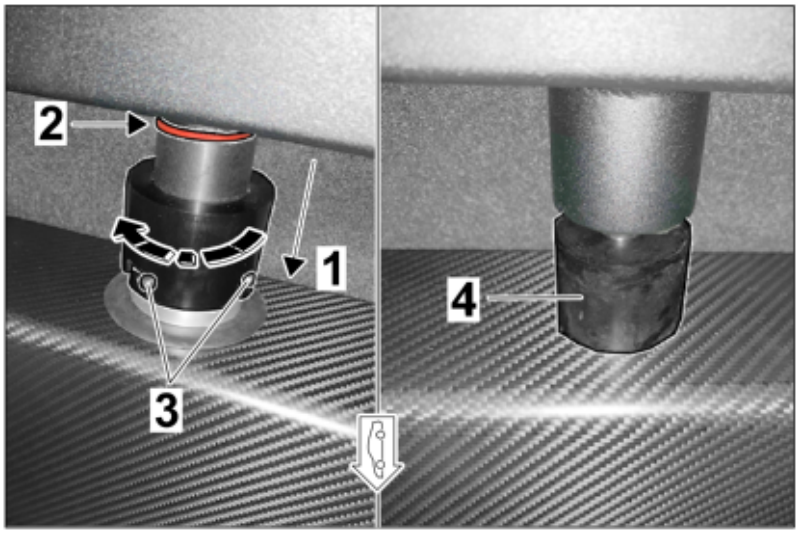

Figure 81

2 – Position of drain / intake sockets
3 – Pin on water tank intake socket (standard)
4 – Rubber buffer (adjusting water tank (new) height)

In doing so, engage the clips at the top on the bulkhead.

10.4.3 Check the following points:

- Correct position of water tank drain / intake sockets ⇒*Figure 81* **-2-**. Water tank (new) drain socket should be positioned "flat" on the water tank (standard) intake socket!
- Both water tanks are seated symmetrically to each other (symmetry axis)
- Clips at the top of the water tank (new) are aligned with the fixing bores in the bulkhead

Position "NOT OK": Continue with the next step

Position "OK": ⇒ Continue with Step 10.4.5

10.4.4 Correct the position of both water tanks: Readjust water tank (standard) in floorplan area (⇒*Figure 82*).

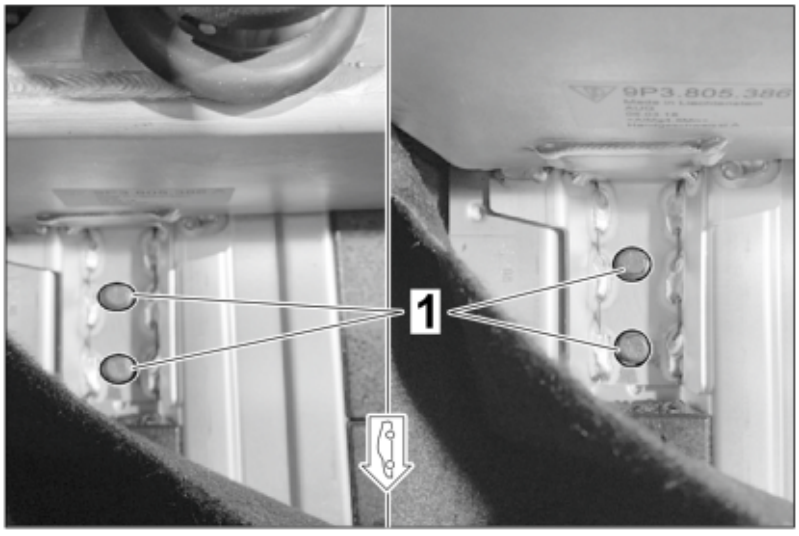

Figure 82

1 – M6 screw

Loosen screw M6 (4 pcs ⇒*Figure 82* -**1**-).

Align the water tank (standard) in such a way that all points under 10.4.3 are met.

Tighten screw (4 pcs ⇒*Figure 82* -**1**-): **Tightening torque 8 Nm (5.9 ftlb.)**. (see also ⇒*Workshop Manual '215719 Removing and installing water spray system reservoir'*)

10.4.5 Connect water tank (new) to water tank (standard):
Turn the bayonet lock until the bayonet lock can be guided on pins on the water tank (standard) intake socket.

Press water tank (new) with bayonet cap downward and connect it to the water tank (standard) by turning it clockwise (⇒*Figure 81* -**3**-).

10.4.6 Align water tank (new) horizontally with the water tank (standard):
Turn rubber buffer (left side below water tank (new) ⇒*Figure 81* -**4**-) until it rests on the carbon cover for water tank (standard).

10.4.7 Press water tank (new) holder at the top of the bulkhead and secure it to the bulkhead with stoppers (2 pcs, scope of delivery) (⇒*Figure 74*).

10.4.8 Connect vent line on the water tank (new) behind the left holder (⇒*Figure 83*).

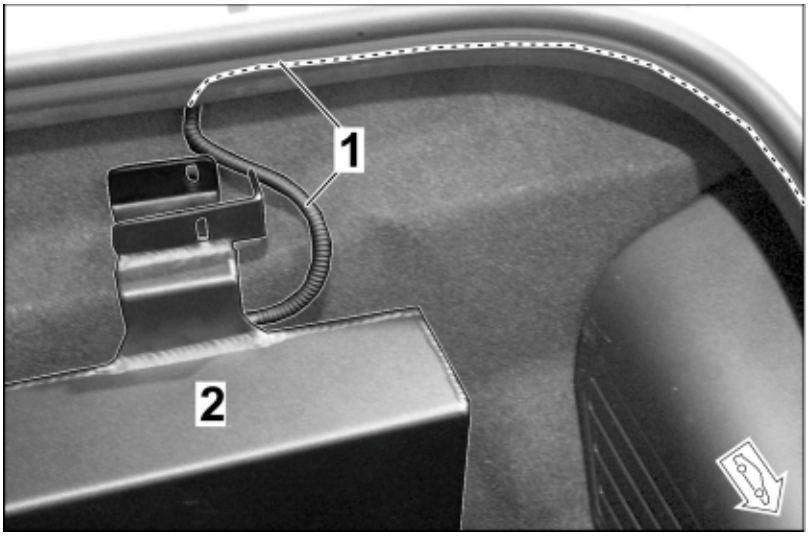

Figure 83

1 – Vent line
2 – Water tank (new)

10.5 Concluding work on water tank (new)

10.5.1 Insert strainer into water tank (new) filling neck.

10.5.2 Add commercially available distilled water in the water tank (new) up to the strainer.

10.5.3 Install "GT2 RS" cap on the new water tank (⇒ *Figure 84* -**Arrow**-).

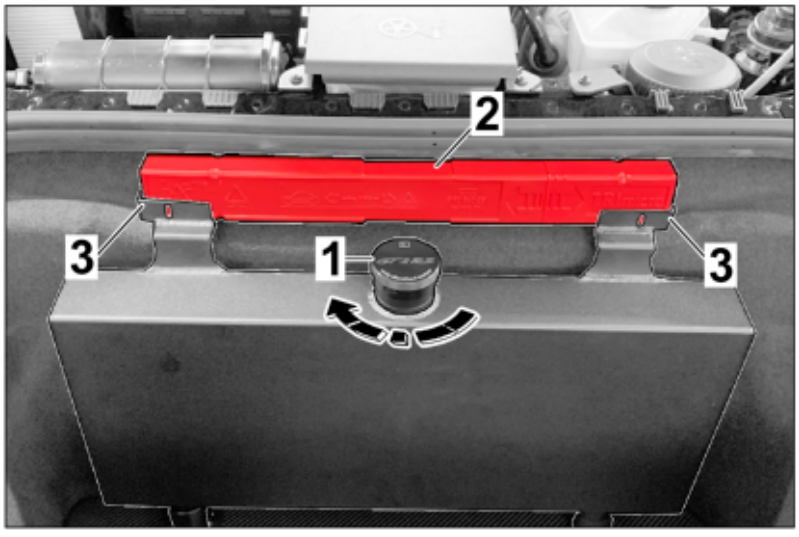

Figure 84

1 – "GT2 RS" cap
2 – Warning triangle
3 – Clips for water tank (new)

10.5.4 Install warning triangle in clips for water tank (new) (⇒ *Figure 84*).

Chassis: 11 Perform complete alignment.

For further information, see also: Instructions for the measuring wheel system. ⇒*Installation and Conversion Instructions '440000 Measuring wheel system'*

11.1 Measuring criteria:

- Front tyres: **Michelin Cup 2 ZR 265/35 R20**
- Rear tyres: **Michelin Cup 2 ZR 325/30 R21**
- Tank capacity: **Full**
- Water tank: **Full**
- Driver ballast: **Driver weight or optionally 75 kg (165 lbs)**
- Rear wing: **Position 3**

Damper setting	**Front axle**	**Rear axle**
Rebound stage (R) LowSpeed (purple)	12	5
Rebound stage (R) HighSpeed (gold)		4
Compression (C) LowSpeed (purple)	7	7
Compression (C) HighSpeed (gold)	7	7
Steel anti-roll bar	Rear position = soft	Center position = medium
CRFP anti-roll bar	Rear position = soft	Rear position = soft
Measuring points for PORSCHE ride height	105.0 mm (4.13 in)	272.0 mm (10.79 in)
Driving height on measuring wheel system	82 mm (offset: -23 mm) 3.46 in (offset: -0.91 in)	260 mm (offset: -12 mm) 10.24 mm (offset: -0.47 in)

11.2 Measurement log:

Measurement log (executing PORSCHE center)			
Wheel alignment values (worldwide)	**Initial reading**	**Setpoint values**	**Final measurement**
Front axle			
Toe unpressed (total)		+ 2 mm	

Camber with wheels in straight-ahead position		- 2.6°	
Rear axle			
Toe per wheel		+ 2 mm	
Camber		- 2.6°	
Installed on:	Mechanic:	Acceptance:	Stamp:
(Date)	(First Name)	(Name of Foreman)	(Porsche Center)

0913 23 66: 911 GT2 RS Manthey Performance Kit — Labor time: **1400 TU**
Includes: 911 GT2 RS Manthey Performance Kit installed, align and adjust vehicle.

55 90 61 51: Painting new parts of rear lid — Labor time: **90 TU**
Includes: Painting of new parts, step 1:
Materials: 6 MU

51 01 71 05: Body paint finish prepared — Labor time: **130 TU**
Includes: Order-related
Painting of new parts, step 1
Plastic part