

WF40 - Retrofitting Additional Fastening Bolt and Line Bracket for Coolant Pipe (Workshop Campaign)

Vehicle Type: **918 Spyder**

Model Year: **2015**

Concerns: **Coolant pipe to reservoir for medium/low-temperature cooling system**

Issue: **There is a possibility that the coolant pipe for the right coolant reservoir is rubbing against the engine mount as a result of relative movements of the engine in the event of unfavourable tolerances on the affected vehicles.**

This can damage the coolant pipe and can result in a loss of coolant from the reservoir over the service life of the vehicle. A warning message then appears in the "Car & Info" display to alert the driver to the fact that the engine coolant level is too low.

- Action Required:
- Retrofit additional fastening bolt and line bracket for the coolant pipe
 - Check coolant pipe for damage in the engine mount area
 - Replace the coolant pipe if necessary, depending on the result of the check



Information

Please note the following points when carrying out this campaign:

- The additional bore on the monocoque for the fastening bolt to be retrofitted must **only** be made using the **drill attachment with bit stop** from the set of fastening parts. The use of commercially available drills is **not permitted** in order to prevent damage to the monocoque or peripheral components.
- The adhesive to be used for retrofitting the additional fastening bolt must harden for **at least 6 hours** (curing time) at **room temperature** (at least 18 – 22 °C) (e.g. leave the vehicle overnight).
- If the **rear underbody panelling is removed**, the **rear wheels must not be fitted** and the vehicle **must not be removed from the lifting platform** during the curing time. The rear underbody panelling must be removed if the **coolant pipe** has to be **replaced**, depending on the result of the check.

**Information**

Before carrying out this campaign, it is important to check whether the vehicle in question is also affected by the campaigns specified below:

- AF05 Stop Sale Campaign/Recall campaign – Checking and reworking wire harness for rear left radiator fan
- WF39 Workshop campaign – Replacing relay for radiator fan

If the vehicle is also assigned to one or both of the specified campaigns, the relevant campaigns **must be carried out together** with this workshop campaign **if possible**.

Any other campaigns assigned to the vehicle must also be carried out.

**Information**

The vehicle must be checked for defects and damage (damage to paintwork, missing parts, etc.) **each time** it is handed over, transferred or delivered. Confirmation that the vehicle is in good condition or details of any damage to the vehicle must be documented and archived for feedback purposes.

Service Level: **This campaign must be carried out by a Service Level 2 Porsche Dealer.**

Service Level 0 Porsche Centres are **not** authorised to carry out this campaign.

In accordance with the service concept for the 918 Spyder, the vehicle must be transferred to the nearest Service Level 2 Porsche Dealer in order to carry out this campaign.

In this case, please contact the nearest Service Level 2 Porsche Dealer and arrange for the transfer of the vehicle and implementation of the measure.

Information on invoicing for the transfer of the vehicle can be found under ⇒ *Technical Information* 'WF4000 Invoicing' at the end of this document.

Affected Vehicles: Only the vehicles assigned to the campaign (see also PIWIS Vehicle Information). This campaign affects 244 vehicles in North America.

Parts Info: **NOTE: PARTS WILL NOT BE AUTOMATICALLY ALLOCATED TO YOUR DEALERSHIP. ALL PARTS MUST BE ORDERED VIA A PTEC/PAV.**

Part No.	Designation – Use	Qty.
000.043.302.77	⇒ Set of fastening parts – For securing coolant pipe	1 ea.

Includes:

000.043.302.76	Drill attachment with bit stop	1 ea.
999.516.102.01	Fastening bolt, 5 x 15	1 ea.
999.507.152.40	Line bracket	1 ea.

Also required:

918.111.421.00	⇒ Seal – Front silencer to exhaust manifold	2 ea.
918.111.431.00	⇒ Seal – Main silencer to front silencer	2 ea.
000.043.303.38	⇒ Aluminium pads (4 ea.) – For insulating monocoque rear wall	1 ea.
999.507.309.02	⇒ Speed nut, ST 4.8 – Rear apron – Rear wheel housing liner	Optional (as required)
N 906.271.03	⇒ Speed nut (same as Part No. 918.504.597.00) – Underbody panelling – Rear wheel housing liner – Rear apron – Rear side panel	Optional (as required)
000.043.302.75	⇒ Clamp – Rear side panel	Optional (as required)

Also required if the coolant pipe for the reservoir must be replaced:

918.106.343.02	⇒ Coolant pipe – Reservoir for medium/low-temperature cooling system	1 ea.
900.123.144.30	⇒ Sealing ring, A10 x 13.5 – Coolant drain plug	1 ea.
918.504.288.01	⇒ Right seal – Door window glass on monocoque	1 ea.

Materials: **Required materials** (usually already available in the Porsche Centre):

Part No.	Designation – Use	Qty.
000.043.302.57	Scotchweld DP 490 adhesive	75g tube (approx. 5 grams required per vehicle)
000.043.300.35	McLube Sailkote High Performance Dry Lube – Central wheel lock	428g spraying can (approx. 10 grams required per vehicle)
Also required if the coolant pipe for the reservoir must be replaced:		
...	Tie-wrap, 5 mm wide, 200 mm long e.g. 999.513.052.40	2 ea. *
000.043.301.48	Antifreeze – Cooling system	20-litre container (approx. 1 litre required per vehicle)
000.043.205.93	Klüberplus Gel grease – O-rings and coolant hoses	100g tube As much as required (approx. 5 grams required per vehicle)
000.043.204.68	Klüber Syntheso Glep grease – O-rings for cooling system	50g tube As much as required (approx. 5 grams required per vehicle)

* For warranty invoicing for part number WF400000001, enter "expendable items" designation as a **sublet part** costing €0.40.

Tools:

- **9002 - Lifting platform holders**
- **9453 - Access ramps**
- **9003 - Socket wrench** for central wheel lock
- **9004 - Socket wrench** for central wheel lock cover
- **9001 - Socket wrench** for engine cover caps
- **3370 - Hook** for removing roll-over bar trim
- Torque wrench, 150 – 800 Nm (111 – 592 ftlb.), e.g. **V.A.G 1601 - Torque wrench, 150 - 800 Nm (111 - 592 ftlb.)**
- Torque wrench, 2 – 10 Nm (1.5 – 7.5 ftlb.), e.g. **V.A.G 1783 - Torque wrench, 2-10 Nm (1.5-7.5 ftlb.)**

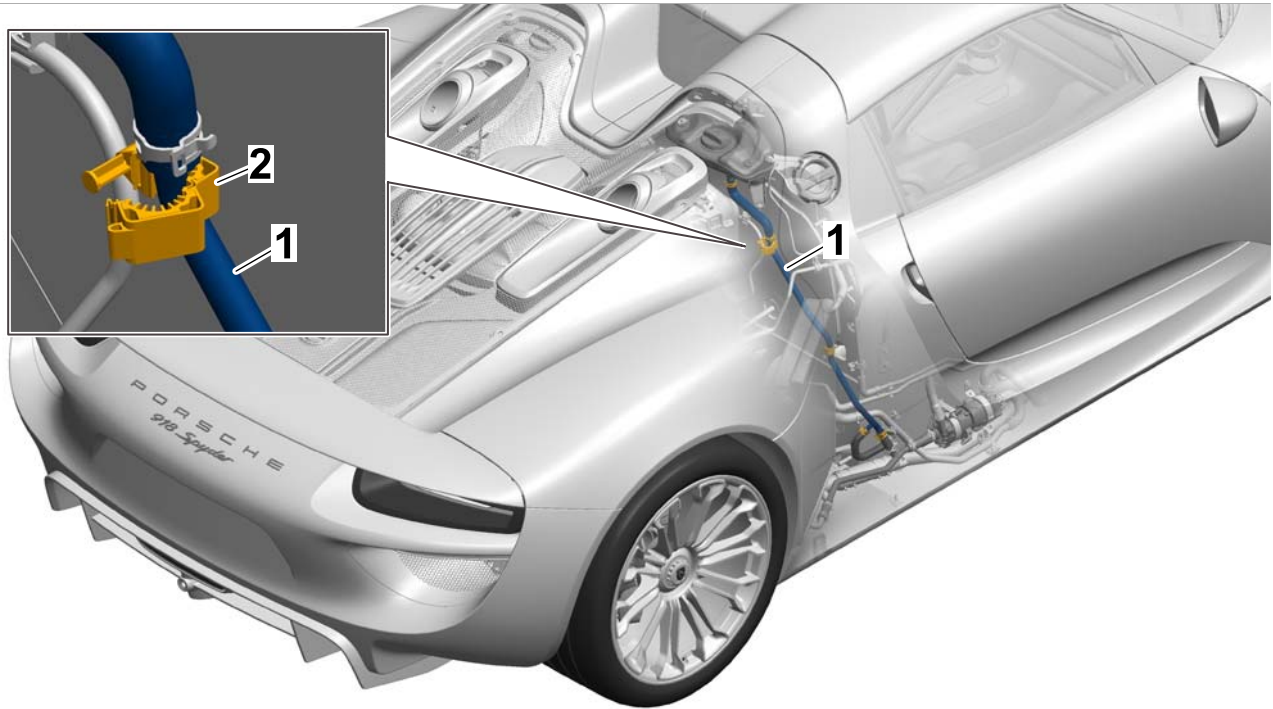
- Torque wrench, 6 – 50 Nm (4.5 – 37 ftlb.), e.g. **V.A.G 1331 - Torque wrench, 6-50 Nm (4.5-37 ftlb.)**
- **9014/1 - Protective cover** for top of rear spoiler
- **9014/3 - Protective cover** for heat protection on exhaust system
- **9014/4 - Protective cover** for underside of rear spoiler
- **9014/5 - Protective cover** for outer rear trim panel
- **9014/6 - Protective cover** for front of engine cover
- Plastic assembly wedge (commercially available)
- Hand lamp or pocket lamp
- Inspection mirror
- Battery-operated or hand drill
- Steel rule or measuring tape
- De-greasing cleaning agent (e.g. isopropanol)

Also required if the coolant pipe for the reservoir must be replaced:

- Suitable hose clamps, e.g. **Nr.192 - Hose clamp pliers**
- **VAS 6096/2 - Vacuum pump**
- **9696 - Filling device**
- **9005 - Hose** for bleeding the cooling system
- **9818 - PIWIS Tester II**
- Suitable battery charger, e.g. **VAS 5908 - Battery charger 90A** (charging current limit of max. 60 A required, charger must be set as described in ⇒ *Workshop Manual '9X00IN Battery trickle charging'*.)
- Suitable erasing disc for removing adhesive residue, e.g. **Nr.174 Pos.1 - Erasing disc**

Installation

Position:



Installation position of coolant pipe

- 1 – Coolant pipe for coolant reservoir on the right (**check**)
- 2 – Line bracket (**retrofit**)

Preliminary work

Procedure: 1 Raise the vehicle on a lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.



Information

Depending on the result of the check, the coolant pipe for the right coolant reservoir may have to be replaced during this campaign.

The right door must be opened fully in order to remove and install the right sill cover (side skirt) for this purpose.

If this is not possible because of the lifting platform used, the right door must also be removed and installed. In this case, **Scope 3** must be invoiced.

- 1.1 Position the vehicle between the arms of the lifting platform and push it onto the **9453 - access ramps**.
- 1.2 Remove underbody covers and fit mounting plates **9002 - Lifting platform holders**, ⇒ *Workshop Manual '518119 Removing and installing jacking points'*.

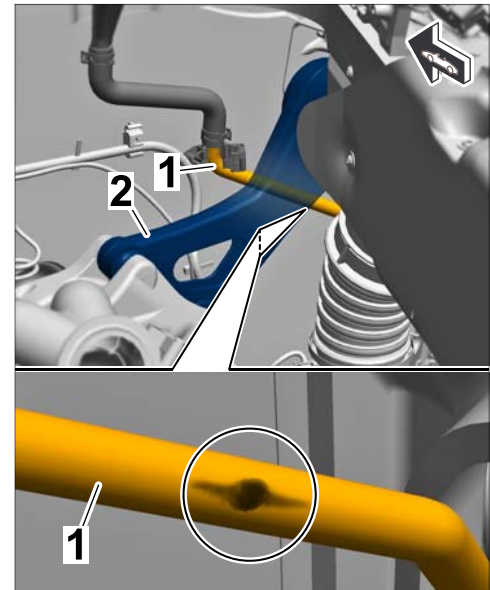
- 1.3 Jack and raise the vehicle at the mounting plates.
- 2 Remove trim panel for roll-over bar at the left and right ⇒ *Workshop Manual '663519 Removing and installing trim panel for roll-over bar'*.
- 3 Remove engine cover ⇒ *Workshop Manual '108319 Removing and installing engine cover'*.
- 4 Remove both rear wheels ⇒ *Workshop Manual '440519 Removing and installing wheel'*.
- 5 Remove rear side panel at the left and right.
 - 5.1 Remove rear wheel housing liners at the left and right.
 - 5.1.1 Remove rear wheel housing liner (front part) ⇒ *Workshop Manual '53691901 Removing and installing rear wheel housing liner (front part)'*.
 - 5.1.2 Remove rear wheel housing liner (rear part) ⇒ *Workshop Manual '53691903 Removing and installing rear wheel housing liner (rear part)'*.
 - 5.2 Remove lower part of rear spoiler (at the sides) ⇒ *Workshop Manual '66591901 Removing and installing lower part of rear spoiler (at the sides)'*.
 - 5.3 Remove lower part of rear spoiler ⇒ *Workshop Manual '66591900 Removing and installing lower part of rear spoiler'*.
 - 5.4 Remove additional rear spoiler ⇒ *Workshop Manual '66581905 Removing and installing rear spoiler'*.
 - 5.5 Remove rear apron ⇒ *Workshop Manual '635519 Removing and installing rear apron'*.
 - 5.6 Remove air cleaner housing (air guide) at the left and right ⇒ *Workshop Manual '243619 Removing and installing air guide'*.
 - 5.7 Remove rear side panel at the left and right ⇒ *Workshop Manual '535519 Removing and installing side panel'*.
- 6 Loosen left and right coolant reservoir in order to remove the exhaust system at the monocoque and move them aside with lines connected. For instructions, see:
 - ⇒ *Workshop Manual '194019 Removing and installing coolant reservoir - high-temperature cooling system'*
 - ⇒ *Workshop Manual '194019 Removing and installing coolant reservoir - medium/low-temperature cooling system'*
- 7 Remove exhaust system ⇒ *Workshop Manual '260119 Removing and installing exhaust system'*. Also loosen the clamps between the front and rear silencers to make it easier to remove the exhaust system. For instructions, see ⇒ *Workshop Manual '263319 Removing and installing rear silencer'*.
- 8 Remove heat shield for exhaust system at the left and right side ⇒ *Workshop Manual '261219 Removing and installing heat shield on exhaust system'*.

Checking coolant pipe for the right coolant reservoir for damage

Procedure: 1 Visually inspect the coolant pipe ⇒ *Checking coolant pipe -1-* close to the right engine mount ⇒ *Checking coolant pipe -2-* for damage.

To do this, press the coolant pipe forward onto the rear wall of the monocoque and check the side of the coolant pipe that is towards the engine mount. Use a hand lamp and pocket mirror to do this if necessary.

- There is **no visible or palpable damage** to the coolant pipe ⇒ *Checking coolant pipe -1-*: The coolant pipe does **not** have to be replaced. **Continue with** ⇒ *Technical Information 'WF4000 Retrofitting additional fastening bolt and line bracket for coolant pipe'*.
- The **coolant pipe** ⇒ *Checking coolant pipe -1-* has a **visible and palpable indentation** ⇒ *Checking coolant pipe -lower circle-*: The **coolant pipe** must be **replaced**. **To do this, continue with** ⇒ *Technical Information 'WF4000 Removing coolant pipe for the right coolant reservoir'*.



Checking coolant pipe

Removing coolant pipe for the right coolant reservoir

- Procedure: 1 Remove underbody covers.
- 1.1 Remove centre underbody cover (at the sides) at the left and right ⇒ *Workshop Manual '51931901 Removing and installing cover for centre underbody (at the sides)'*.
 - 1.2 Remove front wheel housing liner (front part) at the right ⇒ *Workshop Manual '50561901 Removing and installing front wheel housing liner (front part)'*.
 - 1.3 Remove front wheel housing liner (rear part) at the left and right ⇒ *Workshop Manual '50561905 Removing and installing front wheel housing liner (rear part)'*.
 - 1.4 Remove front underbody cover ⇒ *Workshop Manual '519219 Removing and installing cover for front underbody'*.
 - 1.5 Remove centre underbody cover ⇒ *Workshop Manual '51931900 Removing and installing cover for centre underbody'*.

NOTICE

No rear-axle support when cover for rear underbody panelling is removed

- **Hairline cracks in unit carrier**
- **Axle adjustment values on rear axle deviate from setpoint values**

- ⇒ Do not fit rear wheels until cover for rear underbody panelling is installed.
- ⇒ Do not remove vehicle from the lifting platform until cover for rear underbody panelling is installed.

1.6 Remove rear underbody cover ⇒ *Workshop Manual '519419 Removing and installing cover for rear underbody'*.

2 Remove right sill cover.



Information

The right door must be opened fully in order to remove and install the right sill cover (side skirt). If this is not possible because of the lifting platform used, the right door must also be removed and installed ⇒ *Workshop Manual '575119 Removing and installing door'*.

Information on invoicing for removing and installing the door can be found under ⇒ *Technical Information 'WF4000 Invoicing'* at the end of this document.

2.1 Remove rubber seal for door at the right B-pillar ⇒ *Workshop Manual '576319 Removing and installing rubber seal for door'*.

2.2 Remove right B-pillar cover ⇒ *Workshop Manual '669419 Removing and installing cover'*.

2.3 Remove lock peg for right door ⇒ *Workshop Manual '572619 Removing and installing lock peg'*.

2.4 Remove inner door sill trim at the right ⇒ *Workshop Manual '680519 Removing and installing inner door sill trim'*.

2.5 Remove right sill cover ⇒ *Workshop Manual '663119 Removing and installing sill cover'*.

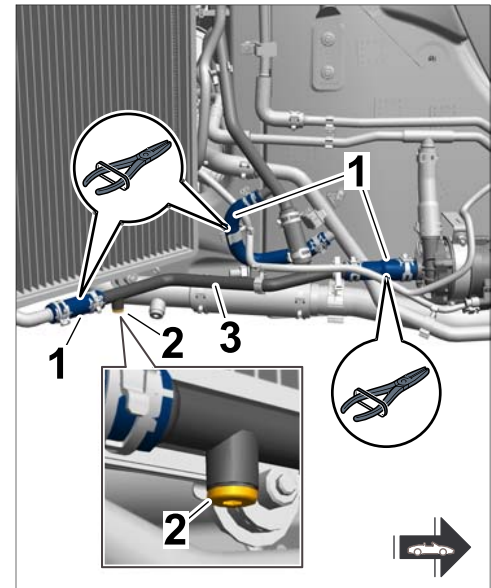


Caustic fluid

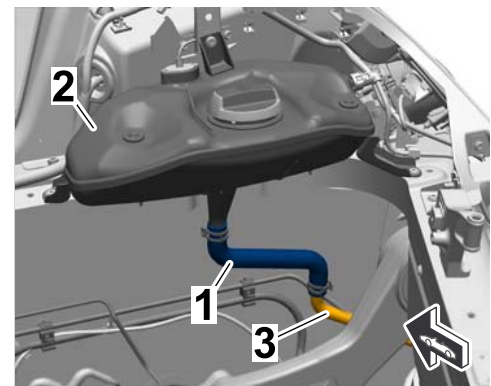
- **Danger of chemical burns**
- ⇒ **Avoid contact with caustic fluid.**
- ⇒ **Wear personal protective gear.**
- ⇒ **Ensure that there is good ventilation.**
- ⇒ **If you do come into contact, wash off immediately with plenty of warm water and contact a doctor if necessary.**

- 3 Drain coolant from the coolant pipe to be replaced.
 - 3.1 Clamp coolant hoses \Rightarrow *Draining coolant -1-* using suitable hose clamps, e.g. **Nr.192 - hose clamping pliers**.
 - 3.2 Open the cap on the right coolant reservoir.
 - 3.3 Drain coolant. To do this, place a collecting container under the drain position and unscrew the drain plug \Rightarrow *Draining coolant -2-* on the coolant pipe \Rightarrow *Draining coolant -3-* for battery cooling. Then, screw in and tighten the drain plug \Rightarrow *Draining coolant -2-* with a new sealing ring. **Tightening torque 15 Nm (11 ftlb.) \pm 2 Nm (\pm 1.5 ftlb.)**
- 4 Remove coolant pipe for the right coolant reservoir.

- 4.1 Remove right coolant reservoir \Rightarrow *Removing right coolant reservoir -2-* completely. Contrary to the instructions in the Workshop Manual, do not remove the coolant hose \Rightarrow *Removing right coolant reservoir -1-* at the reservoir, but at the coolant pipe \Rightarrow *Removing right coolant reservoir -3-* underneath it. \Rightarrow *Workshop Manual '194019 Removing and installing coolant reservoir - medium/low-temperature cooling system'*

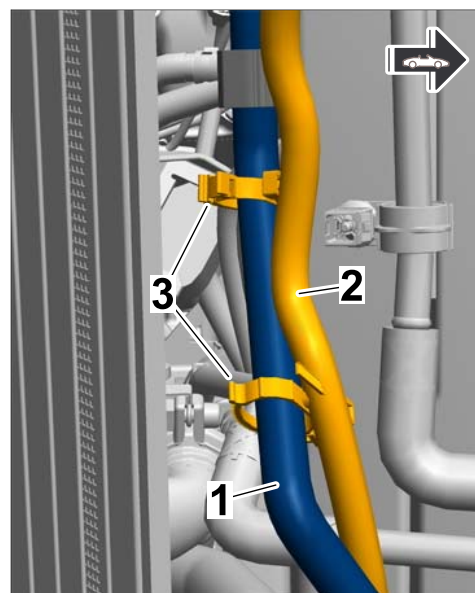


Draining coolant



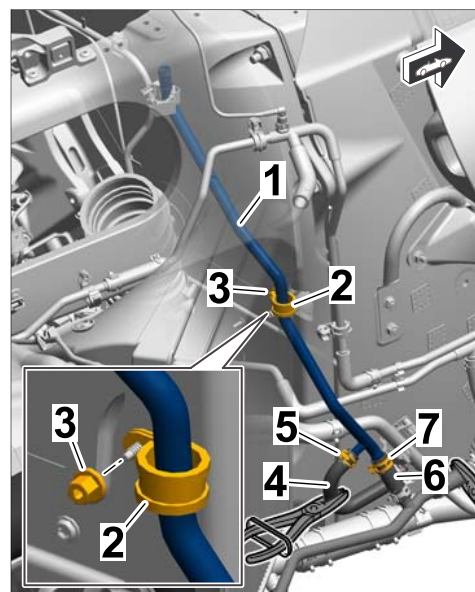
Removing right coolant reservoir

- 4.2 Disconnect and remove both line brackets
 ⇒ *Removing line brackets -3-* on the coolant pipe ⇒ *Removing line brackets -1-* and on the wire harness ⇒ *Removing line brackets -2-* for the oxygen sensors.
 These will no longer be needed when re-installing the coolant pipe.



Removing line brackets

- 4.3 Loosen and unscrew fastening nut ⇒ *Removing coolant pipe -3-* for the holding clamp ⇒ *Removing coolant pipe -2-* on the coolant pipe ⇒ *Removing coolant pipe -1-*. Loosen and pull holding clamp off the fastening bolt.
- 4.4 Open the clamp ⇒ *Removing coolant pipe -5-* and pull the coolant hose ⇒ *Removing coolant pipe -4-* off the coolant pipe.
- 4.5 Open the clamp ⇒ *Removing coolant pipe -7-* and pull the coolant pipe out of the coolant hose ⇒ *Removing coolant pipe -6-*.
- 4.6 Guide coolant pipe ⇒ *Removing coolant pipe -1-* down out of the unit carrier and remove it.



Removing coolant pipe

Retrofitting additional fastening bolt and line bracket for coolant pipe

Procedure: **Tool # PNA6815WF40 (Drilling template) will be auto-shipped to your dealer. The following instructions on how to make a template will therefore not be necessary.**

- 1 Make a drilling template for the fastening bolt to be retrofitted.



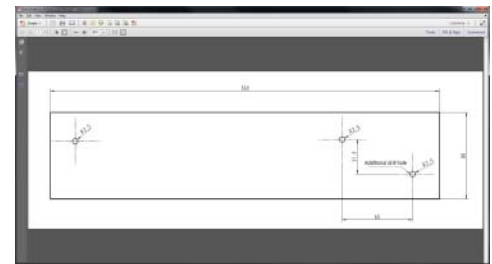
Information

The following description for making the drilling template is based on the use of **Adobe Acrobat XI** and a print-out of the template on **two DIN A4 sheets** (210 x 297 mm).

The procedure may be different if different software or a different paper format is used.

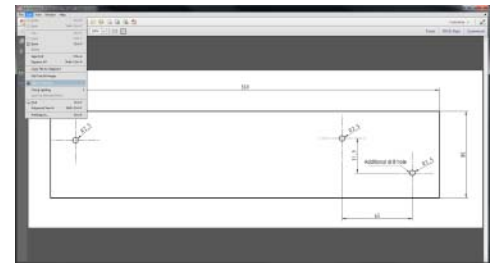
Irrespective of the paper size and software used, always make sure to print the drilling template in the specified size (**100% scaling**). This ensures that the actual size of the template matches the measured dimensions of the template.

- 1.1 Open the drilling template file using Adobe Acrobat ⇒ *Opening drilling template file*. You will find the drilling template file as a PDF file under "Standard forms" for the 918 Spyder, model year 2015 in the PIWIS information system.



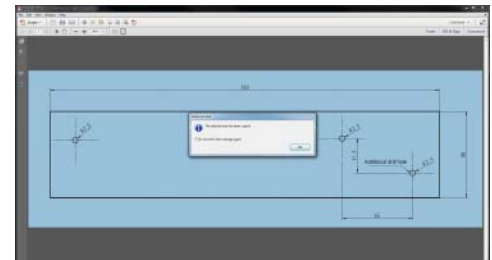
Opening drilling template file

- 1.2 Open the ⇒ **'Edit'** menu and select the ⇒ **'Take a Snapshot'** function ⇒ *'Take a Snapshot' function*.



'Take a Snapshot' function

- 1.3 Using the mouse pointer (crosshairs) with the left mouse button pressed, select the complete drilling template and then release the left mouse button. Confirm the information message that appears by pressing the **'OK'** button ⇒ *Confirming snapshot*.



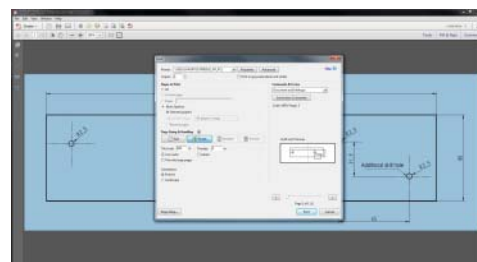
Confirming snapshot

- 1.4 Open the ⇒ **'File'** menu and select the ⇒ **'Print'** function.

- 1.5 Select the following settings on the Print screen: ⇒ *Printing template*

- 'Pages to Print' ⇒ 'More Options' ⇒ **'Selected graphic'**
- 'Page Sizing & Handling' ⇒ **'Poster'**
- 'Tile Scale' ⇒ **100%**
- 'Overlap' ⇒ **25 mm**
- 'Cut marks' ⇒ **Yes (tick box)**

Then print the drilling template by pressing the **'Print'** button.
The drilling template is printed in the specified size on two sheets.



Printing template

1.6 Fit the previously printed sections of the drilling template ⇒ *Making drilling template -1, 2-* together so that they overlap in such a way that the cut marks ⇒ *Making drilling template -3-* are aligned perfectly on top of each other on both sections.

1.7 Stick the overlapping sections of the drilling template ⇒ *Making drilling template -1, 2-* together using commercially available adhesive tape.

1.8 Measure the length ⇒ *Making drilling template -A-* and height ⇒ *Making drilling template -B-* of the drilling template you have just stuck together ⇒ *Making drilling template -4-* using a suitable measuring tape or rule. The **actual dimensions** must match the specifications on the template (**width: 360 mm, height: 80 mm**).

If the drilling template you have made **deviates** from the specifications by **more than +/- 2 mm**, the drilling template **must not be used** and a new template must be made.

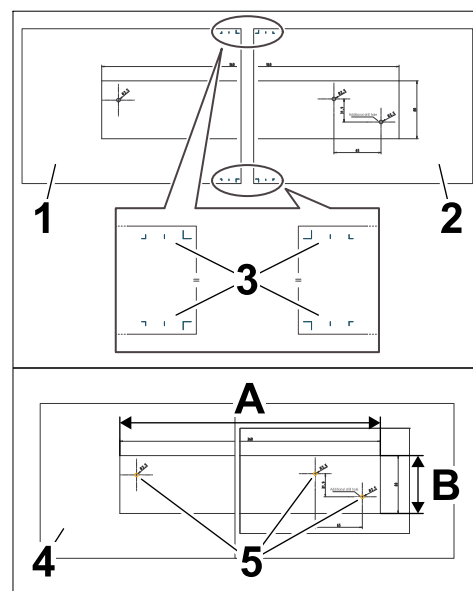
1.9 Cut out openings ⇒ *Making drilling template -5-* for fixing points and bore on the drilling template.

Reinforce cut-out openings on the drilling template using commercially available adhesive tape.

1.10 Cut off extra paper at the left and right of the drilling template to make it easier to position the template on the vehicle.

If this campaign must be carried out on several affected vehicles in the Porsche Centre, stick the drilling template to a piece of cardboard if necessary to ensure that the drilling template can be used several times.

2 Mark the position of the additional bore for the fastening bolt to be retrofitted.



Making drilling template

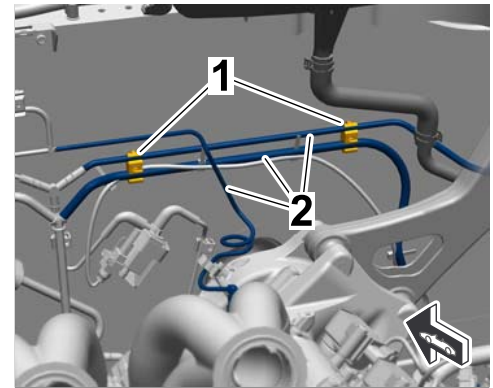
2.1 Unclip vacuum and ventilation lines ⇒ *Loosening lines on monocoque -2-* from the brackets ⇒ *Loosening lines on monocoque -1-* on the rear wall of the monocoque and press them down carefully.

2.2 Unscrew brackets ⇒ *Loosening lines on monocoque -1-* for vacuum and ventilation lines from the fastening bolts and set them aside.

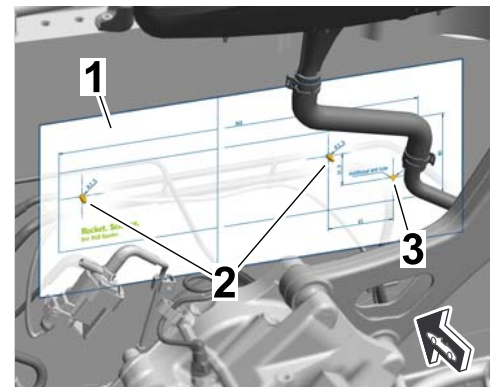
2.3 Position the drilling template you made earlier ⇒ *Positioning drilling template -1-* as shown with the openings in the template on the fastening bolts ⇒ *Positioning drilling template -2-* for the vacuum lines. The opening for the position of the additional bore to be made ⇒ *Positioning drilling template -3-* must be on the right-hand side of the vehicle.

2.4 Mark the position of the additional bore to be made ⇒ *Positioning drilling template -3-* using the drilling template ⇒ *Positioning drilling template -1-* on the insulated wadding of the monocoque rear wall.

2.5 Remove drilling template from the fastening bolts.



Loosening lines on monocoque



Positioning drilling template

CAUTION

Sharp, pointed edge on the knife

- Danger of pricks or cuts
- ⇒ Wear personal protective gear.
- ⇒ Handle knife with care.

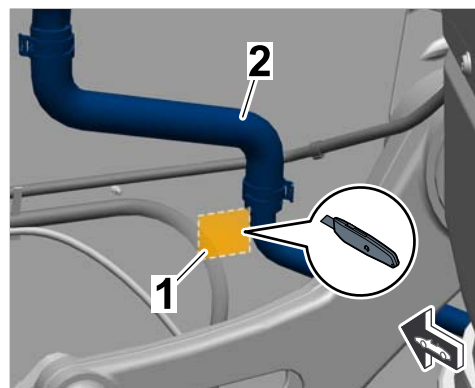
NOTICE

Cutting out insulated wadding

- Risk of damage to monocoque
- ⇒ Cut open insulated wadding in steps.
- ⇒ Do not exert too much pressure on the knife edge.

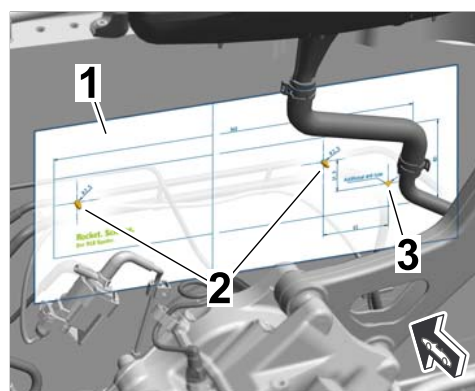
⇒ Pull insulated wadding off the monocoque while separating it.

- 2.6 Carefully cut out the insulated wadding of the monocoque rear wall in an area measuring approx. 50 x 50 mm ⇒ Cutting out insulated wadding -1- around the marking you made using a Stanley knife. If not already removed, also press the coolant hose ⇒ Cutting out insulated wadding -2- for the right coolant reservoir carefully aside. Remove the cut-out insulated wadding ⇒ Cutting out insulated wadding -1- and set it aside so that it can be re-used later.



Cutting out insulated wadding

- 2.7 Re-position the drilling template ⇒ Positioning drilling template -1- with the openings in the template on the fastening bolts ⇒ Positioning drilling template -2- for the vacuum lines and mark the position of the additional bore to be made ⇒ Positioning drilling template -3- on the rear wall of the monocoque.



Positioning drilling template

- 2.8 Remove drilling template from the monocoque rear wall.

- 3 Drill an additional bore for the fastening bolt to be retrofitted using the **drill attachment with bit stop**.

- 3.1 Cover the engine compartment close to the additional bore with cloths.

WARNING

Drilling and grinding work on carbon fibre-reinforced plastic materials

- Risk of lung damage
- Risk of skin irritation

⇒ Always wear personal protective gear (fine-dust filter mask, goggles, gloves) when working with materials made of carbon fibre-reinforced plastic.

⇒ Remove any drilling and grinding dust immediately using an approved vacuum cleaner.

⇒ Wipe off any remaining dust with a damp lint-free cloth.

NOTICE**Drilling work not performed correctly on the monocoque**

- Risk of damage to monocoque
 - Fuel tank can start to leak or become damaged
 - Risk of damage to peripheral components
- ⇒ Use only the drill attachment with bit stop contained in the set of fastening parts.
- ⇒ The cutting edges of the drill attachment to be used must be sharp. Only use the drill attachment once.
- ⇒ Maintain a right angle between the drill attachment and monocoque while drilling.
- ⇒ Do not tilt the drill attachment.
- ⇒ Do not exert too much pressure while drilling.
- ⇒ Do not use cutting oil or other cooling lubricants.
- ⇒ Vacuum or collect any dust from carbon fibre-reinforced plastic.

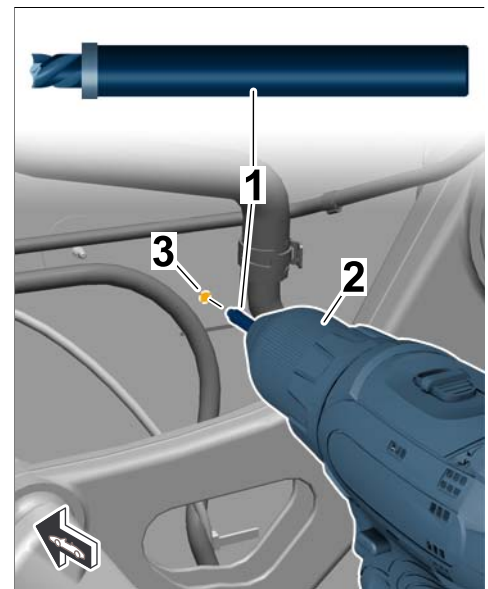
- 3.2 Drill the additional bore at the marked position
⇒ *Drilling additional bore -3- only* using the **drill attachment with bit stop** ⇒ *Drilling additional bore -1-* from the set of fastening parts and a hand drill ⇒ *Drilling additional bore -1-*.

While drilling, make sure in particular to make the bore hole at a right angle to the monocoque and as far as the bit stop on the drill attachment. Remove any carbon fibre-reinforced plastic dust with a vacuum cleaner.

- 3.3 De-burr additional bore ⇒ *Drilling additional bore -3-* in the monocoque rear wall using suitable sandpaper. Sand an area of approx. 10 mm around the bore on the monocoque rear wall.

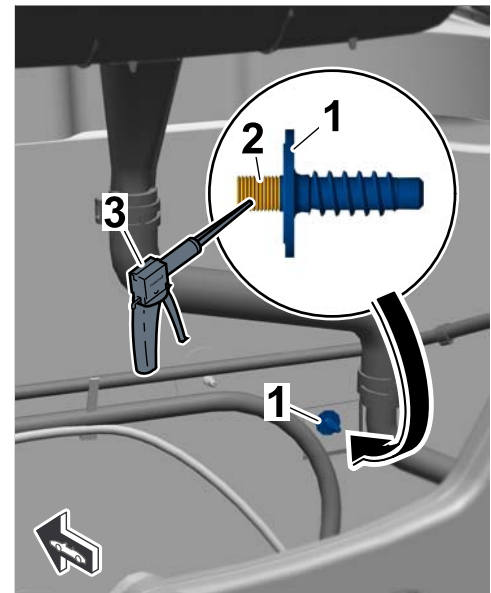
- 3.4 Blow out the bore using compressed air and de-grease using a suitable cleaning agent (e.g. isopropanol).

- 4 Bond additional fastening bolt on the monocoque rear wall.

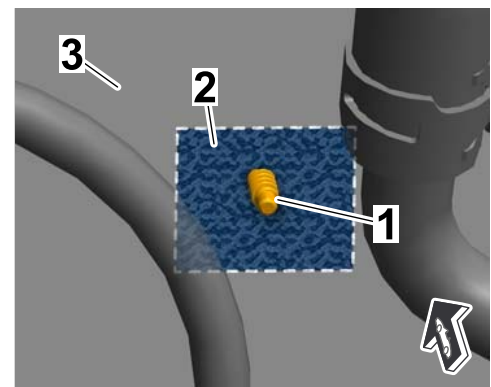


Drilling additional bore

- 4.1 De-grease the short threaded pin ⇒ *Bonding in additional fastening bolt -2-* of the fastening bolt to be retrofitted ⇒ *Bonding in additional fastening bolt -1-* using a suitable cleaning agent (e.g. isopropanol).
- 4.2 Apply adhesive, Part No. 000.043.302.57 ⇒ *Bonding in additional fastening bolt -3-* uniformly to the short threaded pin ⇒ *Bonding in additional fastening bolt -2-* of the fastening bolt so that it is coated completely with adhesive.
- 4.3 Press the short threaded pin ⇒ *Bonding in additional fastening bolt -2-* of the threaded bolt as far as it will go into the bore hole you just made.
Then tap the threaded bolt ⇒ *Bonding in additional fastening bolt -1-* as far as required into the bore by hitting it lightly with a hammer so that the collar of the threaded bolt is touching the rear wall of the monocoque.
- 4.4 Fit the insulated wadding you cut out earlier on the rear wall of the monocoque.
To do this, cut an opening in the wadding according to the position of the fastening bolt.
- 4.5 Stick insulated wadding on the fastening bolt ⇒ *Affixing insulation -1-* over a large area using heat protection aluminium pads ⇒ *Affixing insulation -2-* on the insulation ⇒ *Affixing insulation -3-* for the monocoque rear wall. De-grease the bonding area first if necessary using a suitable cleaning agent (e.g. isopropanol).



Bonding in additional fastening bolt



Affixing insulation

NOTICE

Insufficient curing time for adhesive

- **Insufficient fastening bolt strength**
- ⇒ **Observe a curing time of at least 6 hours.**
- ⇒ **Maintain an ambient temperature of at least 18 - 22 °C.**
- ⇒ **Do not exert mechanical pressure on the bonding area during the curing time.**

⇒ Do not carry out assembly work on the fastening bolt until the specified curing time has elapsed.

- 5 Before continuing with the next installation steps, **make sure to wait** until the **curing time of at least 6 hours at room temperature** (at least 18 – 22 °C) for the adhesive on the fastening bolt has elapsed.

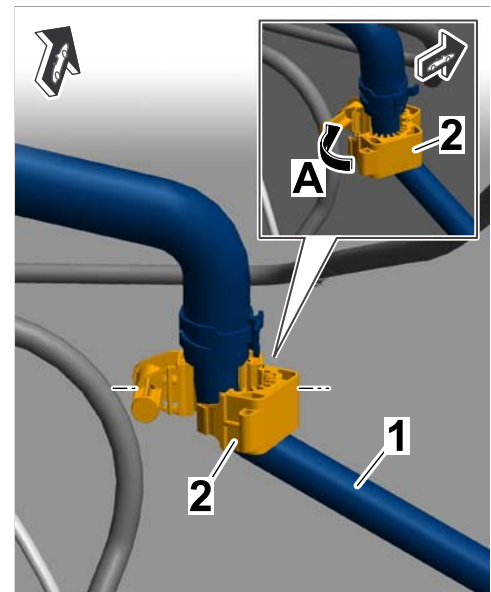
If the **coolant pipe** for the right coolant reservoir was **removed** earlier, install this during the curing time. **To do this, continue with** ⇒ *Technical Information 'WF4000 Installing new coolant pipe'*.

If the coolant pipe was **not replaced**, **continue with Step 6** after the **curing time has elapsed**.

- 6 Secure the coolant hose on the monocoque rear wall.

6.1 Screw additional line bracket ⇒ *Installing additional line bracket -2-* as far as it will go onto the previously bonded fastening bolt and align it horizontally as shown.

6.2 Insert coolant pipe ⇒ *Installing additional line bracket -1-* for the right coolant reservoir without tension in the line bracket ⇒ *Installing additional line bracket -2-* and lock the line bracket ⇒ *Installing additional line bracket -A-*.

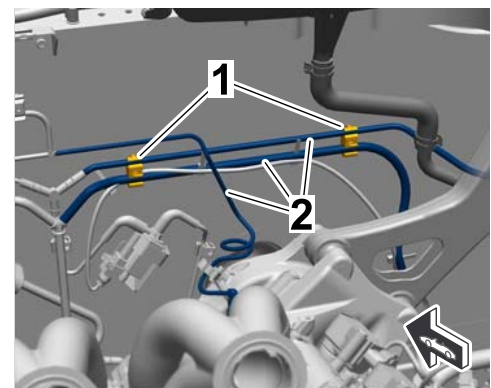


Installing additional line bracket

- 7 Secure vacuum and ventilation lines at the monocoque rear wall.

7.1 Screw the line brackets you removed earlier ⇒ *Securing lines on the monocoque -1-* onto the fastening bolts.

7.2 Route vacuum and ventilation lines ⇒ *Securing lines on the monocoque -2-* without tension along the monocoque rear wall and clip them into the line brackets ⇒ *Securing lines on the monocoque -1-*.



Securing lines on the monocoque

- 8 Complete the vehicle. To do this, continue with ⇒ *Technical Information 'WF4000 Subsequent work'*.

Installing new coolant pipe

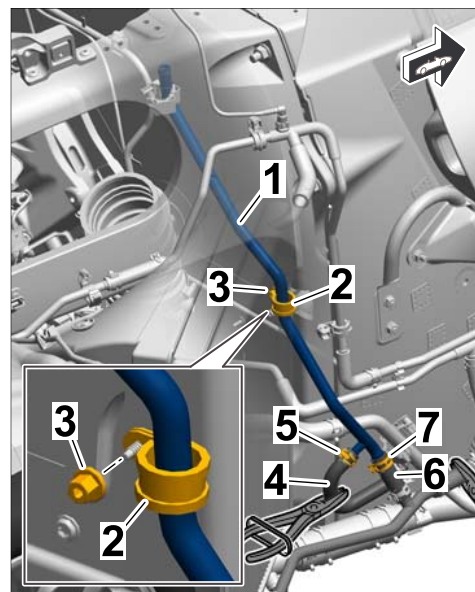
Procedure: 1 Install new coolant pipe for the right coolant reservoir.



Information

Grease O-rings, hoses and lines in the cooling system with Klüberplus Gel.

- 1.1 Guide coolant pipe ⇒ *Installing coolant pipe -1-* through the side opening on the unit carrier at the right into the engine compartment.
- 1.2 Push the coolant pipe ⇒ *Installing coolant pipe -1-* as far as it will go into the coolant hose ⇒ *Installing coolant pipe -6-*, but **do not secure it** with the clamp ⇒ *Installing coolant pipe -7- yet*.
- 1.3 Position coolant pipe ⇒ *Installing coolant pipe -1-* with the holding clamp ⇒ *Installing coolant pipe -2-* on the fastening bolt on the monocoque rear wall.
- 1.4 Screw on and tighten fastening nut ⇒ *Installing coolant pipe -3-* on the holding clamp.



Installing coolant pipe

Tightening torque 10 Nm (7.5 ftlb.)

- 1.5 Align the coolant pipe ⇒ *Installing coolant pipe -1-* in the engine compartment so that the upper end of the pipe is touching the monocoque rear wall. To do this, turn the coolant pipe as required in the coolant hose ⇒ *Installing coolant pipe -6-*. Then secure the coolant pipe with the clamp ⇒ *Installing coolant pipe -7-*.
- 1.6 Position the right coolant reservoir in installation position and connect all connections, but only screw in the fastening screws by a few turns initially ⇒ *Workshop Manual '194019 Removing and installing coolant reservoir - medium/low-temperature cooling system'*.
- 1.7 Push coolant hose ⇒ *Installing coolant pipe -4-* onto the coolant pipe ⇒ *Installing coolant pipe -1-* and secure with the clamp ⇒ *Installing coolant pipe -5-*.
- 1.8 Remove hose clamping pliers from the coolant hoses.

NOTICE

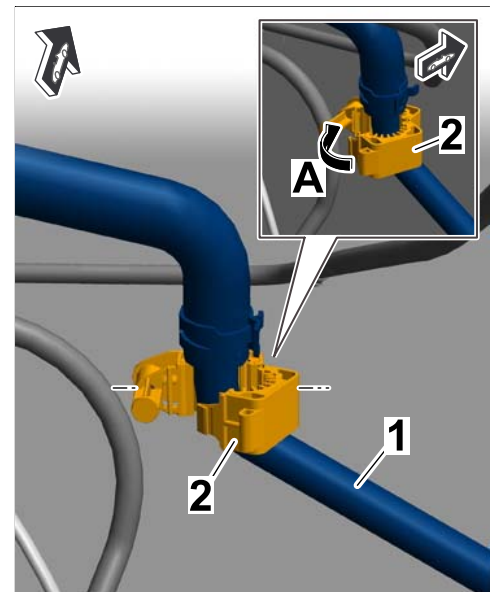
Insufficient curing time for adhesive

- **Insufficient fastening bolt strength**
- ⇒ **Observe a curing time of at least 6 hours.**

- ⇒ Maintain an ambient temperature of at least 18 - 22 °C.
- ⇒ Do not exert mechanical pressure on the bonding area during the curing time.
- ⇒ Do not carry out assembly work on the fastening bolt until the specified curing time has elapsed.

2 Secure the coolant hose on the monocoque rear wall.

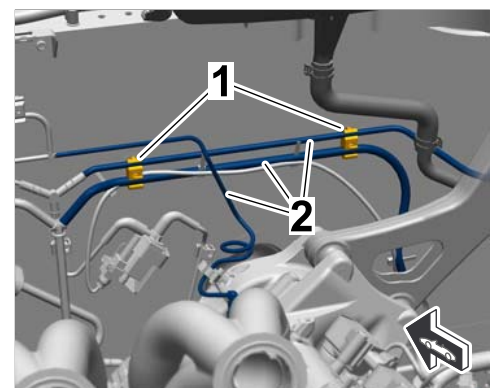
- 2.1 Before fitting the additional line bracket **always** wait until the **curing time of at least 6 hours at room temperature** (at least 18 – 22 °C) for the adhesive on the fastening bolt has elapsed.
If necessary **first** carry out the next steps **Step 3 to Step 7** and wait until the **curing time** has **elapsed** before installing the line bracket on the fastening bolt you have just retrofitted.
- 2.2 Screw additional line bracket ⇒ *Installing additional line bracket -2-* as far as it will go onto the previously bonded fastening bolt and align it horizontally as shown.
- 2.3 Insert coolant pipe ⇒ *Installing additional line bracket -1-* for the right coolant reservoir without tension in the line bracket ⇒ *Installing additional line bracket -2-* and lock the line bracket ⇒ *Installing additional line bracket -A-*.



Installing additional line bracket

3 Secure vacuum and ventilation lines at the monocoque rear wall.

- 3.1 Screw the line brackets you removed earlier ⇒ *Securing lines on the monocoque -1-* onto the fastening bolts.
- 3.2 Route vacuum and ventilation lines ⇒ *Securing lines on the monocoque -2-* without tension along the monocoque rear wall and clip them into the line brackets ⇒ *Securing lines on the monocoque -1-*.



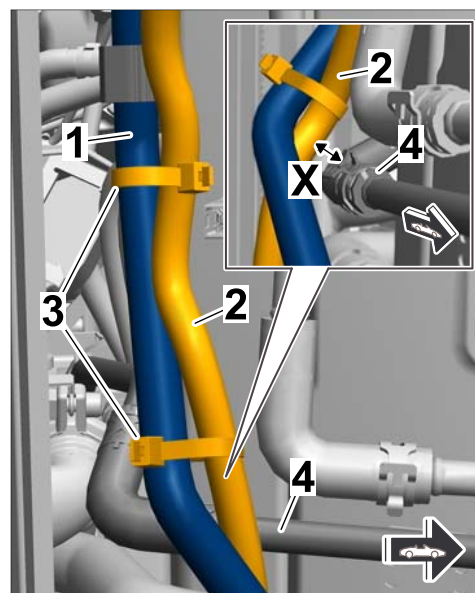
Securing lines on the monocoque

- 4 Secure wire harness ⇒ *Securing wire harness for oxygen sensors -2-* for oxygen sensors using suitable tie-wraps ⇒ *Securing wire harness for oxygen sensors -3-*, 5 mm wide, e.g. Part No. 999.513.052.40, on the coolant pipe ⇒ *Securing wire harness for oxygen sensors -1-* as shown. Make sure to leave a sufficient gap ⇒ *Securing wire harness for oxygen sensors -X-* between the wire harness ⇒ *Securing wire harness for oxygen sensors -2-* and the clamp on the coolant pipe ⇒ *Securing wire harness for oxygen sensors -4-*.

- 5 Fill in coolant for the medium/low-temperature cooling system, but do not bleed the cooling system first ⇒ *Workshop Manual '193817 Draining and filling coolant - medium/low-temperature cooling system'*.

- 6 Install right sill cover.
 - 6.1 Install right sill cover ⇒ *Workshop Manual '663119 Removing and installing sill cover'*.
 - 6.2 Install inner door sill trim at the right ⇒ *Workshop Manual '680519 Removing and installing inner door sill trim'*.
 - 6.3 Install lock peg for right door ⇒ *Workshop Manual '572619 Removing and installing lock peg'*.
 - 6.4 Install right B-pillar cover ⇒ *Workshop Manual '669419 Removing and installing cover'*.
 - 6.5 Stick on new rubber seal for door at the right B-pillar ⇒ *Workshop Manual '576319 Removing and installing rubber seal for door'*.
 - 6.6 If the right door was removed previously because of the lifting platform used, install and adjust the right door.
 - ⇒ *Workshop Manual '575119 Removing and installing door'*
 - ⇒ *Workshop Manual '575115 Adjusting door'*
 Information on invoicing for removing and installing the door can be found under ⇒ *Technical Information 'WF4000 Invoicing'* at the end of this document.

- 7 Install underbody covers.
 - 7.1 Install rear underbody cover ⇒ *Workshop Manual '519419 Removing and installing cover for rear underbody'*.
 - 7.2 Install centre underbody cover ⇒ *Workshop Manual '51931900 Removing and installing cover for centre underbody'*.
 - 7.3 Install front underbody cover ⇒ *Workshop Manual '519219 Removing and installing cover for front underbody'*.



Securing wire harness for oxygen sensors

- 7.4 Install front wheel housing liner (rear part) at the left and right ⇒ *Workshop Manual '50561905 Removing and installing front wheel housing liner (rear part)'*.
- 7.5 Install front wheel housing liner (front part) at the right ⇒ *Workshop Manual '50561901 Removing and installing front wheel housing liner (front part)'*.
- 7.6 Install centre underbody cover (at the sides) at the left and right ⇒ *Workshop Manual '51931901 Removing and installing cover for centre underbody (at the sides)'*.

Subsequent work

- Procedure:
- 1 Install heat shield for exhaust system at the left and right side ⇒ *Workshop Manual '261219 Removing and installing heat shield on exhaust system'*.
 - 2 Install exhaust system. To do this, move the right coolant reservoir with connected lines aside.
⇒ *Workshop Manual '260119 Removing and installing exhaust system'*
⇒ *Workshop Manual '263319 Removing and installing rear silencer'*

Adjust the position of the exhaust system in the vehicle if necessary. For instructions, see ⇒ *Workshop Manual '263315 Adjusting rear silencer'*.
 - 3 Secure the coolant reservoir at the left and right. For instructions, see:
⇒ *Workshop Manual '194019 Removing and installing coolant reservoir - high-temperature cooling system'*
⇒ *Workshop Manual '194019 Removing and installing coolant reservoir - medium/low-temperature cooling system'*.
 - 4 Install rear side panel at the left and right.
 - 4.1 Install rear side panel at the left and right ⇒ *Workshop Manual '535519 Removing and installing side panel'*.
 - 4.2 Install air cleaner housing (air guide) at the left and right ⇒ *Workshop Manual '243619 Removing and installing air guide'*.
 - 4.3 Install rear apron ⇒ *Workshop Manual '635519 Removing and installing rear apron'*.
 - 4.4 Install additional rear spoiler ⇒ *Workshop Manual '66581905 Removing and installing rear spoiler'*.
 - 4.5 Install lower part of rear spoiler ⇒ *Workshop Manual '66591900 Removing and installing lower part of rear spoiler'*.
 - 4.6 Install lower part of rear spoiler (at the sides) ⇒ *Workshop Manual '66591901 Removing and installing lower part of rear spoiler (at the sides)'*.
 - 4.7 Install rear wheel housing liners at the left and right.
 - 4.7.1 Install rear wheel housing liner (rear part) ⇒ *Workshop Manual '53691903 Removing and installing rear wheel housing liner (rear part)'*

- 4.7.2 Install rear wheel housing liner (front part) ⇒ *Workshop Manual '53691901 Removing and installing rear wheel housing liner (front part)'*.
- 5 If the coolant pipe for the right reservoir was replaced, bleed the medium/low-temperature cooling system.
 - 5.1 Remove wiper arm ⇒ *Workshop Manual '922519 Removing and installing wiper arm'*.
 - 5.2 Remove front trim panels at the left and right ⇒ *Workshop Manual '700219 Removing and installing front trim panel'*.
 - 5.3 Remove cowl panel cover ⇒ *Workshop Manual '664419 Removing and installing cowl panel cover'*.
 - 5.4 Bleed the medium/low-temperature cooling system ⇒ *Workshop Manual '190107 Bleeding the cooling system - medium/low-temperature cooling system'*.
 - 5.5 Install cowl panel cover ⇒ *Workshop Manual '664419 Removing and installing cowl panel cover'*.
 - 5.6 Install front trim panels at the left and right ⇒ *Workshop Manual '700219 Removing and installing front trim panel'*.
 - 5.7 Install wiper arm ⇒ *Workshop Manual '922519 Removing and installing wiper arm'*.
- 6 Fit both rear wheels ⇒ *Workshop Manual '440519 Removing and installing wheel'*.
- 7 Install engine cover ⇒ *Workshop Manual '108319 Removing and installing engine cover'*.
- 8 Install trim panel for roll-over bar at the left and right ⇒ *Workshop Manual '663519 Removing and installing trim panel for roll-over bar'*.
- 9 Enter the campaign in the Warranty and Maintenance booklet.

Warranty Invoicing

Service Level: **This campaign must be carried out by a Service Level 2 Porsche Dealer.**

Service Level 0 Porsche Dealers are **not** authorised to carry out this campaign. In accordance with the service concept for the 918 Spyder, the vehicle must be transferred to the nearest Service Level 2 Porsche Dealer in order to carry out this campaign.

In this case, Service Level 0 Porsche Dealers can invoice the cost items listed below for vehicle acceptance, transporting the vehicle and accepting the vehicle following return transport using the **new vehicle warranty** for the vehicle in accordance with the specifications in the 918 Spyder After Sales Fact Book 2014:

- Vehicle acceptance 100 TU
- Transporting the vehicle 100 TU

- Acceptance of the vehicle following return transport 50 TU
 - Costs for transporting the vehicle to and from the Porsche Centre Amount as per invoice *
- * Please document copy of invoice in PQIS

Please invoice the costs by specifying **Damage code C902 97 000** and enter the technical reason by specifying **Coding C9020 9735** in PQIS. Also specify **Campaign WF40** under Comment.

Service Level 2 Porsche Dealers must always submit an invoice for the **campaign scope**.

Scope 1: **Checking coolant pipe for damage and retrofitting additional fastening elements** – no parts must be replaced.

Working time:

Checking coolant pipe and retrofitting additional fastening elements Labor time: **755 TU**

Includes:

- Making drilling template
- Drilling additional bore for fastening bolt
- Raising and lowering the vehicle
- Removing and installing trim panel for roll-over bar at the left and right
- Removing and installing engine cover
- Removing and installing rear wheel at the left and right
- Removing and installing rear wheel housing liner at the left and right
- Removing and installing lower part of rear spoiler
- Removing and installing additional rear spoiler
- Removing and installing rear apron
- Removing and installing air guide at the left and right
- Removing and installing rear side panel at the left and right
- Loosening and securing coolant reservoir at the left and right
- Removing and installing exhaust system
- Removing and installing heat shields on exhaust system
- Loosening and securing vacuum lines in the engine compartment

Parts required:

000.043.302.77	Set of fastening parts for coolant pipe	1 ea.
918.111.421.00	Seal	2 ea.
918.111.431.00	Seal	2 ea.
000.043.303.38	Aluminium pads	1 ea.

999.507.309.02	Speed nut, ST 4.8	Optional (as required)
N 906.271.03	Speed nut	Optional (as required)
000.043.302.75	Clamp	Optional (as required)
Required materials:		
000.043.302.57	Scotchweld DP 490 adhesive (75g tube)	0.07 ea. (= approx. 5 g)
000.043.300.35	McLube Sailkote High Performance Dry Lube (428g spraying can)	0.03 ea. (= approx. 10 g)
Warranty Invoicing: ⇒ Damage code WF40 66 000, Repair code 1		

Scope 2:

Replacing coolant pipe and retrofitting additional fastening elements



Information

The right sill cover must be removed and installed in order to replace the coolant pipe. The right door must be opened fully in order to do this.

If this is not possible because of the lifting platform used, the **right door** must **also be removed and installed**.

In this case, **Scope 3** must be invoiced.

Working time:	
Replacing coolant pipe and retrofitting additional fastening elements	Labor time: 1678 TU
Includes:	<ul style="list-style-type: none"> Making drilling template Drilling additional bore for fastening bolt Raising and lowering the vehicle Removing and installing trim panel for roll-over bar at the left and right Removing and installing engine cover Removing and installing rear wheel at the left and right Removing and installing rear wheel housing liner at the left and right Removing and installing lower part of rear spoiler Removing and installing additional rear spoiler Removing and installing rear apron Removing and installing air guide at the left and right Removing and installing rear side panel at the left and right Loosening and securing coolant reservoir at the left and right Removing and installing exhaust system Removing and installing heat shields on exhaust system

Loosening and securing vacuum lines in the engine compartment
 Removing and installing centre underbody cover at the left and right (at the sides)
 Removing and installing front wheel housing liner (front part) at the right
 Removing and installing front wheel housing liner (rear part) at the left and right
 Removing and installing front underbody cover
 Removing and installing centre underbody cover
 Removing and installing rear underbody cover
 Removing and installing right sill cover
 Draining and filling coolant
 Loosening and securing wiring harness for oxygen sensors at the right
 Removing and installing cowl panel cover
 Bleeding the medium/low-temperature cooling system
 Without: Removing and installing right door

Parts required:

000.043.302.77	Set of fastening parts for coolant pipe	1 ea.
918.106.343.02	Coolant pipe	1 ea.
900.123.033.20	Sealing ring, A10 x 13.5	1 ea.
918.504.288.01	Right door seal	1 ea.
918.111.421.00	Seal	2 ea.
918.111.431.00	Seal	2 ea.
000.043.303.38	Aluminium pads	1 ea.
999.507.309.02	Speed nut, ST 4.8	Optional (as required)
N 906.271.03	Speed nut	Optional (as required)
000.043.302.75	Clamp	Optional (as required)

Required materials:

000.043.302.57	Scotchweld DP 490 adhesive (75g tube)	0.07 ea. (= approx. 5 g)
000.043.300.35	McLube Sailkote High Performance Dry Lube (428g spraying can)	0.03 ea. (= approx. 10 g)
000.043.301.48	Antifreeze (20-litre container)	0.05 ea. (= approx. 1 litre)

000.043.205.93	Klüberplus Gel grease (100g tube)	0.05 ea. (= approx. 5 g)
000.043.204.68	Klüber Syntheso Glep grease (50g tube)	0.1 ea. (= approx. 5 g)
...	Tie-wrap, 5 mm wide, 200 mm long * e.g. 999.513.052.40	2 ea. *

* For warranty invoicing for part number WF400000001, enter "expendable items" designation as a **sublet part** costing €0.40.

Warranty Invoicing: ⇒ **Damage code WF40 66 000, Repair code 2**

Scope 3:

Replacing coolant pipe and retrofitting additional fastening elements

- Also **removing and installing right door**



Information

The right sill cover must be removed and installed in order to replace the coolant pipe. The right door must be opened fully in order to do this.

If this is not possible because of the lifting platform used, the **right door** must **also be removed and installed**.

In this case, **Scope 3** must be invoiced.

Working time:		
Replacing coolant pipe and retrofitting additional fastening elements		Labor time: 1706 TU
Includes:	Making drilling template	
	Drilling additional bore for fastening bolt	
	Raising and lowering the vehicle	
	Removing and installing trim panel for roll-over bar at the left and right	
	Removing and installing engine cover	
	Removing and installing rear wheel at the left and right	
	Removing and installing rear wheel housing liner at the left and right	
	Removing and installing lower part of rear spoiler	
	Removing and installing additional rear spoiler	
	Removing and installing rear apron	
	Removing and installing air guide at the left and right	
	Removing and installing rear side panel at the left and right	
	Loosening and securing coolant reservoir at the left and right	
	Removing and installing exhaust system	

Removing and installing heat shields on exhaust system
 Loosening and securing vacuum lines in the engine compartment
 Removing and installing centre underbody cover at the left and right (at the sides)
 Removing and installing front wheel housing liner (front part) at the right
 Removing and installing front wheel housing liner (rear part) at the left and right
 Removing and installing front underbody cover
 Removing and installing centre underbody cover
 Removing and installing rear underbody cover
 Removing and installing right door
 Removing and installing right sill cover
 Draining and filling coolant
 Loosening and securing wiring harness for oxygen sensors at the right
 Removing and installing cowl panel cover
 Bleeding the medium/low-temperature cooling system

Parts required:

000.043.302.77	Set of fastening parts for coolant pipe	1 ea.
918.106.343.02	Coolant pipe	1 ea.
900.123.144.30	Sealing ring, A10 x 13.5	1 ea.
918.504.288.01	Right door seal	1 ea.
918.111.421.00	Seal	2 ea.
918.111.431.00	Seal	2 ea.
000.043.303.38	Aluminium pads	1 ea.
999.507.309.02	Speed nut, ST 4.8	Optional (as required)
N 906.271.03	Speed nut	Optional (as required)
000.043.302.75	Clamp	Optional (as required)

Required materials:

000.043.302.57	Scotchweld DP 490 adhesive (75g tube)	0.07 ea. (= approx. 5 g)
000.043.300.35	McLube Sailkote High Performance Dry Lube (428g spraying can)	0.03 ea. (= approx. 10 g)

000.043.301.48	Antifreeze (20-litre container)	0.05 ea. (= approx. 1 litre)
000.043.205.93	Klüberplus Gel grease (100g tube)	0.05 ea. (= approx. 5 g)
000.043.204.68	Klüber Syntheso Glep grease (50g tube)	0.1 ea. (= approx. 5 g)
...	Tie-wrap, 5 mm wide, 200 mm long * e.g. 999.513.052.40	2 ea. *
<p>* For warranty invoicing for part number WF400000001, enter "expendable items" designation as a sublet part costing €0.40.</p>		
<p>Warranty Invoicing: ⇒ Damage code WF40 66 000, Repair code 2</p>		

- References:
- ⇒ *Workshop Manual '108319 Removing and installing engine cover'*
 - ⇒ *Workshop Manual '190107 Bleeding the cooling system - medium/low-temperature cooling system'*
 - ⇒ *Workshop Manual '193817 Draining and filling coolant - medium/low-temperature cooling system'*
 - ⇒ *Workshop Manual '194019 Removing and installing coolant reservoir - high-temperature cooling system'*
 - ⇒ *Workshop Manual '194019 Removing and installing coolant reservoir - medium/low-temperature cooling system'*
 - ⇒ *Workshop Manual '243619 Removing and installing air guide'*
 - ⇒ *Workshop Manual '260119 Removing and installing exhaust system'*
 - ⇒ *Workshop Manual '261219 Removing and installing heat shield on exhaust system'*
 - ⇒ *Workshop Manual '263315 Adjusting rear silencer'*
 - ⇒ *Workshop Manual '263319 Removing and installing rear silencer'*
 - ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*
 - ⇒ *Workshop Manual '440519 Removing and installing wheel'*
 - ⇒ *Workshop Manual '50561901 Removing and installing front wheel housing liner (front part)'*
 - ⇒ *Workshop Manual '50561905 Removing and installing front wheel housing liner (rear part)'*
 - ⇒ *Workshop Manual '518119 Removing and installing jacking points'*
 - ⇒ *Workshop Manual '519219 Removing and installing cover for front underbody'*
 - ⇒ *Workshop Manual '51931900 Removing and installing cover for centre underbody'*
 - ⇒ *Workshop Manual '51931901 Removing and installing cover for centre underbody (at the sides)'*
 - ⇒ *Workshop Manual '519419 Removing and installing cover for rear underbody'*
 - ⇒ *Workshop Manual '535519 Removing and installing side panel'*
 - ⇒ *Workshop Manual '53691901 Removing and installing rear wheel housing liner (front part)'*
 - ⇒ *Workshop Manual '53691903 Removing and installing rear wheel housing liner (rear part)'*
 - ⇒ *Workshop Manual '572619 Removing and installing lock peg'*
 - ⇒ *Workshop Manual '575115 Adjusting door'*
 - ⇒ *Workshop Manual '575119 Removing and installing door'*
 - ⇒ *Workshop Manual '576319 Removing and installing rubber seal for door'*

- ⇒ *Workshop Manual '635519 Removing and installing rear apron'*
- ⇒ *Workshop Manual '663119 Removing and installing sill cover'*
- ⇒ *Workshop Manual '663519 Removing and installing trim panel for roll-over bar'*
- ⇒ *Workshop Manual '664419 Removing and installing cowl panel cover'*
- ⇒ *Workshop Manual '66581905 Removing and installing rear spoiler'*
- ⇒ *Workshop Manual '66591900 Removing and installing lower part of rear spoiler'*
- ⇒ *Workshop Manual '66591901 Removing and installing lower part of rear spoiler (at the sides)'*
- ⇒ *Workshop Manual '669419 Removing and installing cover'*
- ⇒ *Workshop Manual '680519 Removing and installing inner door sill trim'*
- ⇒ *Workshop Manual '700219 Removing and installing front trim panel'*
- ⇒ *Workshop Manual '922519 Removing and installing wiper arm'*

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