INSTALLATION RECOMMENDATION
AIRTRONIC S2 - D2L IN MAXUS E DELIVER 3



THIS INSTALLATION RECOMMENDATION APPLIES TO 2022 MODEL YEAR AND LATER VEHICLES WITH THE FOLLOWING DRIVE TRAINS:

Electric motor 90 kW (122 PS) 255 Nm

⚠ DANGER!

High voltage – Danger!

Danger! Electric shock!

Contact with live high-voltage systems or components can have life-threatening or serious health consequences.

➔ Only certified persons who have received electrical instruction for work on motor vehicles with high-voltage systems or certified electricians for high-voltage systems in motor vehicles (specialist firms with qualified personnel for work on automotive high-volt systems) may work on high-voltage systems or components.

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This installation recommendation documents the installation of the Airtronic S2 heater in a 2022 model year vehicle:

PLEASE NOTE!

We provide this installation recommendation for the vehicle mentioned above without assuming any liability.
Different model years and/or trim levels may necessitate changes to this
installation recommendation.
Prior to installing the heater in a vehicle, always check the feasibility of such an installation.
Any liability claims resulting from changes made to the vehicle are excluded.

Installation time ca. 8 hours

1 INTRODUCTION

SPECIAL TEXT STRUCTURE, PRESENTATION, AND PICTURE SYMBOLS

Special text formats and picture symbols are used in this installation recommendation to emphasise different situations and subjects. Please refer to the following examples for their meanings and appropriate action.

SPECIAL TEXT FORMATS AND PRESENTATIONS

- This dot (▪) indicates a list, which is introduced by a heading.
  – If an indented dash (–) follows a "dot", this list is a sub-section of the black dot.

PICTURE SYMBOLS

DANGER!

This information points out a potential serious or fatal danger. Ignoring this information can result in severe injuries.

➔ This arrow indicates the appropriate precaution to take to avert the danger.

ATTENTION!

This information points out a dangerous situation for a person and / or the product. Failure to comply with these instructions can result in injuries to people and / or damage to machinery.

➔ This arrow indicates the appropriate precaution to take to avert the danger.

PLEASE NOTE!

These remarks contain recommendations for use and useful tips for the operation, installation and repair of the heater.

SAFETY INSTRUCTIONS FOR INSTALLATION AND REPAIR

DANGER!

Improper installation or repair of Eberspächer heaters can cause a fire or result toxic exhaust entering the inside of the vehicle.
This can cause serious and even fatal risks.

➔ The heater may only be installed according to the specifications in the technical documents or repaired using original spare parts by authorised and trained persons.

➔ Installation and repairs by unauthorised and untrained persons, repairs using non-original spare parts and without the technical documents required for installation and repair are dangerous and therefore are not permitted.

➔ Installation according to this installation recommendation may only be carried out in connection with the respective unit-related technical descriptions, installation instructions, operating instructions, and maintenance instructions.
This document must be carefully read through before / during installation and repair and followed throughout. Particular attention is to be paid to the official regulations, the safety instructions and the general information.

PLEASE NOTE!

- The relevant rules of sound engineering practice and any information provided by the vehicle manufacturer are to be observed during the installation and repair.
- When carrying out electric welding on the vehicle, the positive cable at the battery should be disconnected and placed at ground to protect the control box.

LIABILITY CLAIM / WARRANTY

Eberspächer does not accept any liability for defects and damage, which are due to installation or repair by unauthorised and untrained persons. Compliance with the official regulations and the safety instructions is prerequisite for liability claims.
Failure to comply with the official regulations and safety instructions leads to exclusion of any liability of the heater manufacturer.

ACCIDENT PREVENTION

General accident prevention regulations and the corresponding workshop and operating safety instructions are to be observed.

1 INTRODUCTION

ADDITIONAL INFORMATION ON THE VALIDITY OF THIS INSTALLATION RECOMMENDATION

This installation recommendation only applies to vehicles with the engine and transmission variants listed below.

ENGINE AND TRANSMISSION VARIANT

Cubic capacity	kW / hp	Drive train
E-motor (Permanent Magnet Synchronous)	90 / 122	2WD front

PLEASE NOTE!

- This installation recommendation does not apply to RHD vehicles.
- Vehicle models, engine types, and trim levels not listed in this installation recommendation have not been tested.
  However, installation according to this installation recommendation may be possible.

INITIAL START-UP OF THE HEATER OR FUNCTIONAL TEST

- After installation or carrying out a repair on the heater, the coolant circuit and the whole fuel supply system must be vented carefully. Comply with the instructions issued by the vehicle manufacturer.
- Open all heating circuits before the trial run (set the temperature control to "warm").
- During the heater trial run, all water and fuel connections must be checked for leaks and secure, tight fit.
- If faults occur while the heater is running, use a diagnostic unit to correct the cause of the fault.

PARTS REQUIRED FOR INSTALLATION

QUANTITY	DESIGNATION	ORDER NO.
1	Airtronic S2 D2L	25 2721 05 0000
1	Vehicle-specific installation kit	24 8000 89 0015
Selected EasyStart control panel:		
1	EasyStart Pro	22 1000 35 2200
1	EasyStart Web	22 1000 35 4000
1	EasyStart Remote+	22 1000 34 1700
1	EasyStart Remote	22 1000 34 8100
1	EasyStart Timer	22 1000 34 1500

SPECIAL TOOLS/MATERIAL REQUIRED

- required torque wrench
- Reducing die for blind rivet nuts
- Drill, angle drill
- Core drill bits Ø 26, 55, 68, 92 mm
- Crimping pliers
- Anti-corrosion agent
- Body sealer

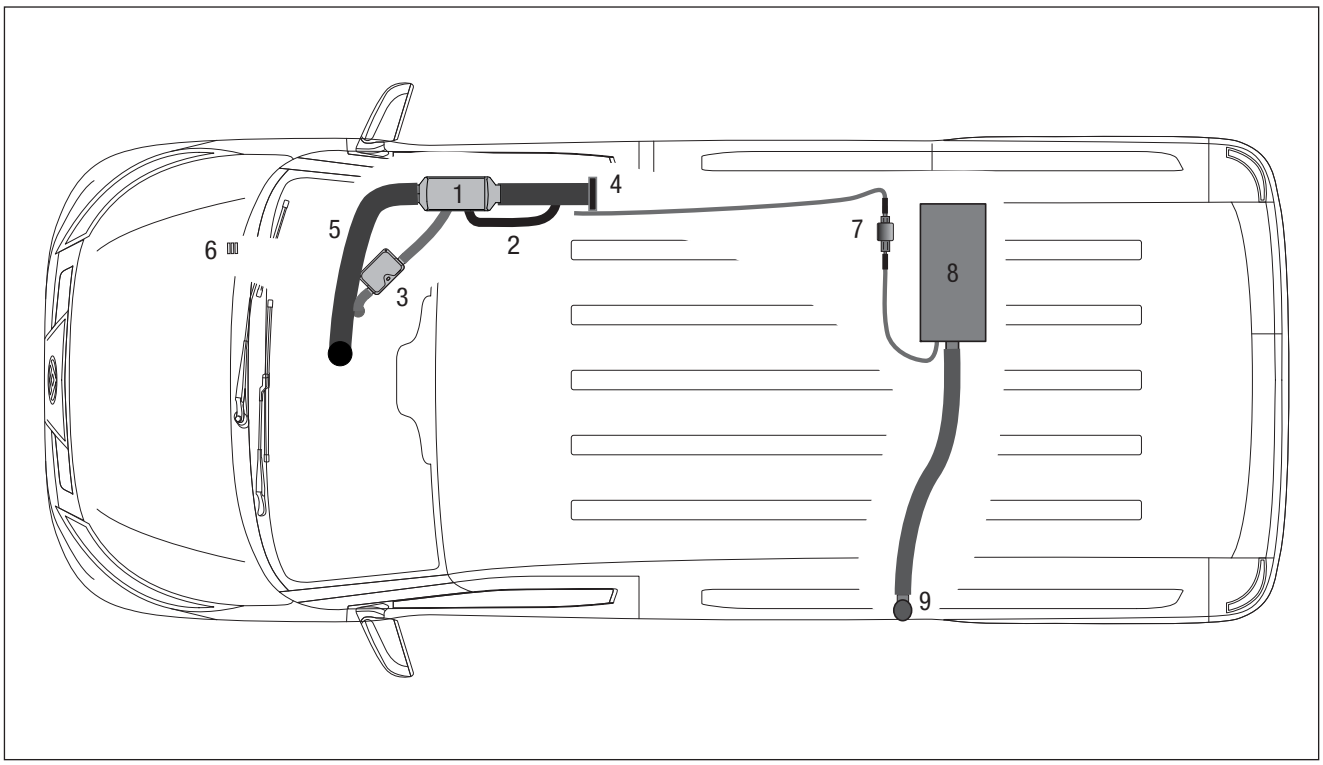
TIGHTENING TORQUES

Tighten bolt connections according to the following table if no tightening torques are specified:

Component designation	Tightening torques
Hex head bolt M6	10 $^{+1}$ Nm
Hex head bolt M8	20 $^{+2}$ Nm
Hex head bolt M10	45 $^{+2}$ Nm
Torx screw M6 x 14.5	6 $^{+0.5}$ Nm
Bolt M4 x 16	3 $^{+0.5}$ Nm
Bolt M5 x 10	5 $^{+0.5}$ Nm
Pipe clamp for exhaust pipe	7 $^{+1}$ Nm
Hose clamp for water hose	3 $^{+0.5}$ Nm
Hose clamp for combustion air pipe	3 $^{+0.5}$ Nm
Hose clamp for fuel pipe	1 $^{+0.2}$ Nm

1 INTRODUCTION

INSTALLATION DRAWING



1 Airtronic S2 D2L
2 Combustion air pipe
3 Exhaust pipe with exhaust silencer
4 Intake air pipe with filter
5 Air outlet
6 Fuse holder
7 Metering pump
8 Fuel tank
9 Filler neck

PREPARATORY WORK ON THE VEHICLE

- Disconnect the battery
- Fold up the carpeting
- Dismantle the lower left dashboard panel
- Remove the left dashboard

2 PRE-ASSEMBLY

PREPARING THE HEATER AND ATTACHING A DUPLICATE NAMEPLATE
(see Fig. 1 and 2)

Mount the air scoop Ø 60 mm on the heater as shown in the figure.

Remove the duplicate nameplate from the heater.

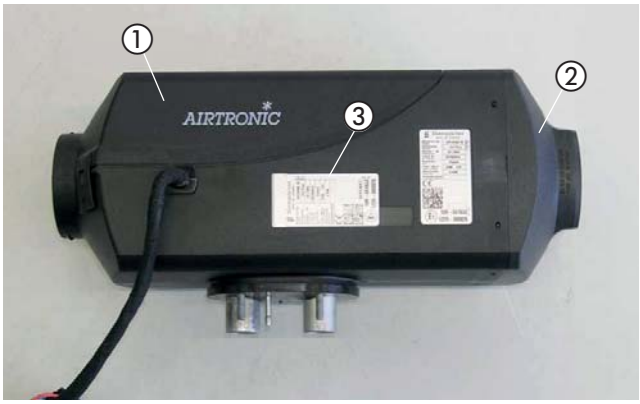


Fig. 1
① Airtronic S2 heater
② Mount the air scoop Ø 60 mm
③ Remove the duplicate nameplate from heater

PREPARING THE EXHAUST SYSTEM
(see Fig. 2 and 3)

Mount the Z-bracket (22 9000 50 7002) to the silencer using an M6 x 12 bolt and a B6 body washer.

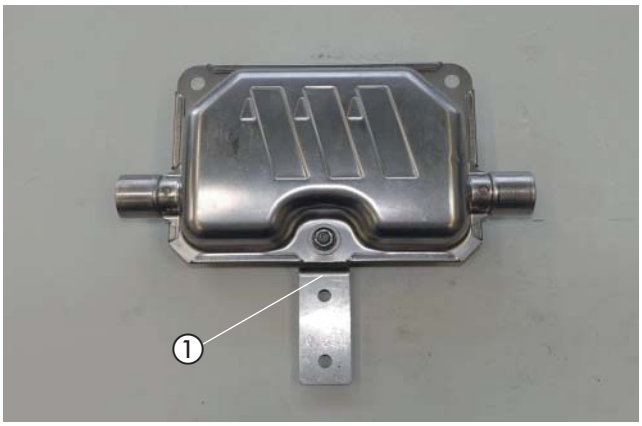


Fig. 2
① Bracket mounted to the silencer

Cut the exhaust pipe to a length of L = 250 mm.
Cut the tail pipe to a length of L = 100 mm.

Fasten the exhaust pipe and the tail pipe to the silencer using a clamp.

Slide the exhaust pipe bend onto the exhaust pipe, align it as shown in the illustration and fasten it with a clamp.

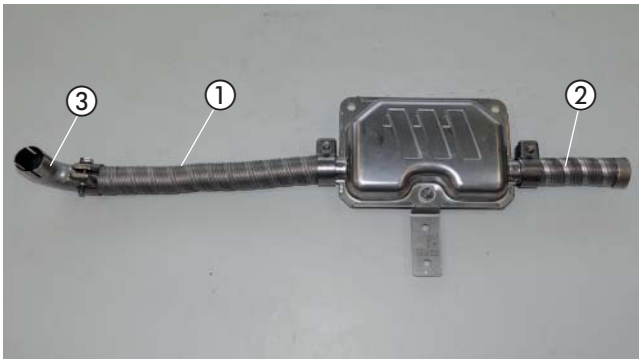


Fig. 3
① Exhaust pipe L = 250 mm installed
② Tail pipe L = 100 mm installed
③ Exhaust pipe bend

2 PRE-ASSEMBLY

PREPARING THE METERING PUMP
(see Fig. 4)

Insert the metering pump into the rubber holder as shown in the figure.

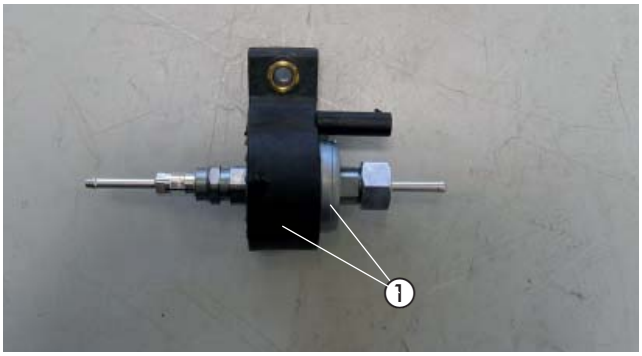


Fig. 4
① Metering pump inserted into the rubber holder

PREPARING THE FUEL PIPE (SUCTION + PRESSURE LINE)
(see Fig. 5 and 6)

Pre-assemble the fuel pipe Ø 4 x 1 mm (suction pipe) with the following parts as shown in the figure:

– Cut 1 x fuel pipe Ø 4 x 1 mm to L = 600 mm
– Cut 1 x foam rubber hose to L: 550mm
– 1 x fuel elbow Ø 5 / 3.5 mm
– Cut 1 x fuel hose Ø 5 mm to length (L: 50 mm)
– Cut 1 x fuel hose Ø 3.5 mm to length (L: 50 mm)
– 1 x fuel filter
– 4 x hose clamps (2x Ø 9 mm, 1x Ø 10 mm, 1x Ø 11 mm)

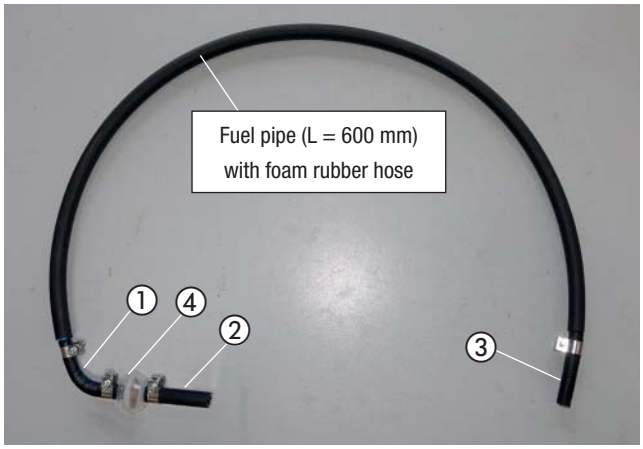


Fig. 5
① Fuel elbow Ø 5 / 3.5 mm
② Fuel hose Ø 5 mm
③ Fuel hose Ø 3.5 mm
④ Fuel filter

Pre-assemble the fuel pipe Ø 4 x 1 mm (pressure line) with the following parts as shown in the figure:

– Cut 1 x fuel pipe Ø 4 x 1 mm to L = 1600 mm
– Cut 1 x foam rubber hose to length (L: 1580 mm)
– 2 x fuel hose bend 105°
– 2 x hose clamps Ø 9 mm

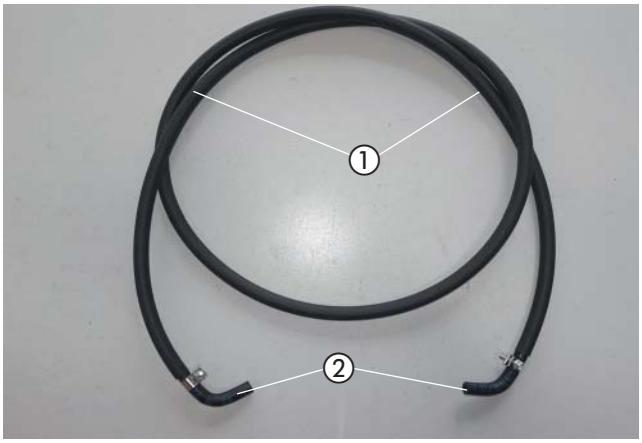


Fig. 6
① Fuel pipe (L = 1600 mm) with foam rubber hose
② Fuel hose bend 105°

2 PRE-ASSEMBLY

PREPARING THE INTAKE AIR HOSE
(see Fig. 7)

Cut the intake air hose to a length of 500 mm.

Slide a Ø 60 mm connecting pipe onto the intake air hose and fix it with a Ø 50-70 mm clamp.

Push the intake air filter onto the connecting pipe (lock in by twisting).

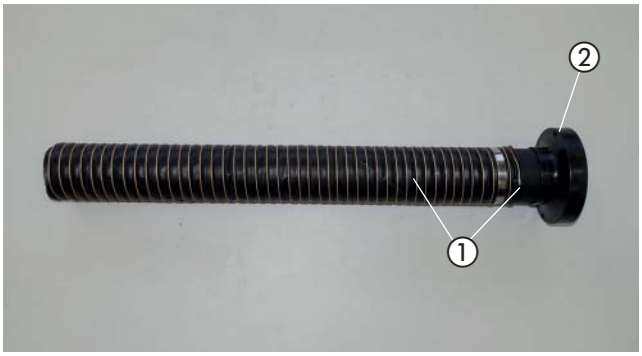


Fig. 7
① Intake air hose with connecting pipe
② Intake air filter

PREPARING THE FUEL TANK
(see Fig. 8 and 9)

Thread the level sensor through the opening in the filler neck and mount it in the fuel tank hole (Ø 16 mm) with a plastic nut M16.

PLEASE NOTE!
The sensor thread groove must point upwards.



Mounted level sensor

Pull a Ø 3 mm insulating tube over the connection wires.

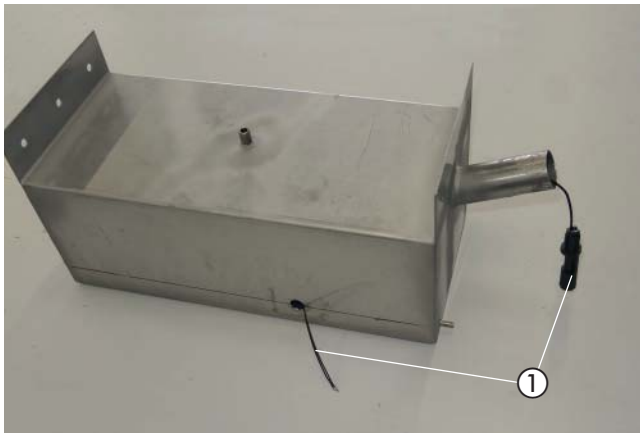


Fig. 8
① Mounting the level sensor

Using 3 M8 x 12 bolts, mount the Z-bracket with the short leg to the fuel tank side with the filler neck as shown in the illustration.



Fig. 9
① Z-bracket mounted to the fuel tank

2 PRE-ASSEMBLY

PREPARINT THE VENT HOSE
(see Fig. 10)

Slide the ventilation element onto the vent hose Ø 7 mm (L = 3 m) and fasten it with a hose clamp Ø 14 mm.



Fig. 10
① Ventilation hose prepared with ventilation element

PREPARING THE EARTH CABLE
(see Fig. 11)

Attach the ring terminal ends A5 and A6 to the 1.5 mm² brown earth wire.

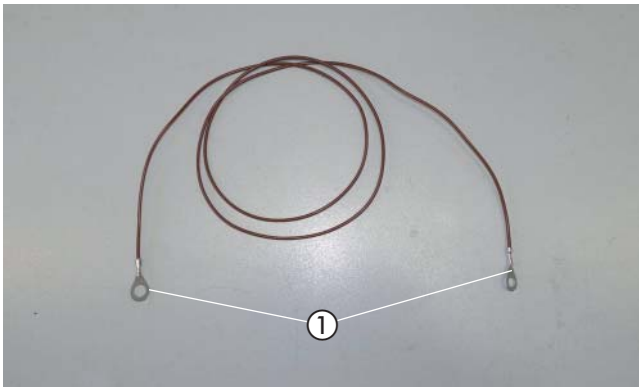


Fig. 11
① Earth cable with ring terminal ends A5 and A6

PREASSEMBLE THE STATIONARY PART OF THE CONTROL ELEMENT
(see Fig. 12)

WHEN INSTALLING THE EASYSTART REMOTE / REMOTE+

Mount the stationary part of the EasyStart Remote/Remote+ to bracket 0054 using two M4 x 16 bolts as shown in the figure.

WHEN INSTALLING THE EASYSTART WEB

Mount the stationary part of the EasyStart Web to bracket 0054 using two M4 x 16 bolts as shown in the figure.

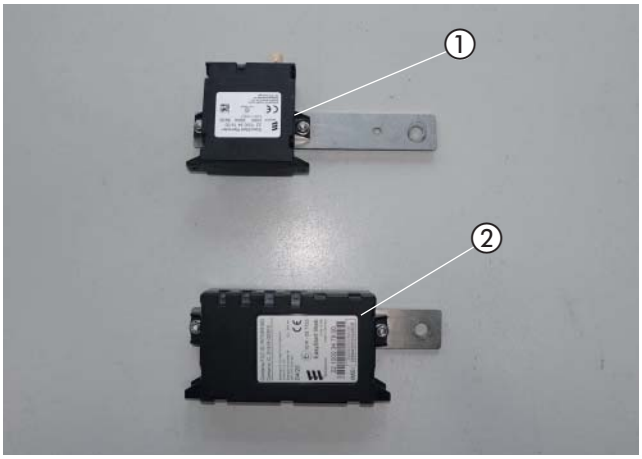


Fig. 12
① Assembling the stationary part of the EasyStart Remote/Remote+
② Assembling the stationary part of the EasyStart Web

2 PRE-ASSEMBLY

PREASSEMBLE HEATER WIRING HARNESS
(see Fig. 13 to 15)

Heater wiring harness power supply
- Cable 0.5 mm² red -> plug contact with seal (white)
- Cable 2.5 mm² red -> plug contact with seal (blue)
- Earth wire 4.0 mm² brown -> ring terminal end A6

Plug the power supply cable harness into the fuse holder.

The 20 A and 5 A fuses are inserted only after the electrical system has been installed.

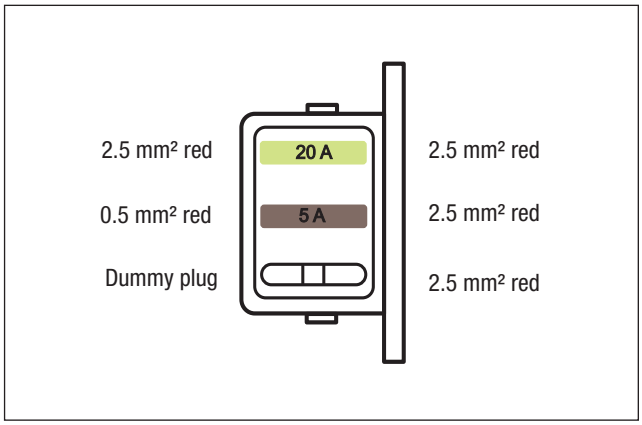


Fig. 13
View of the fuse base from the fuse side

Attach the fuse base with two M4 plastic expanding rivets to the fuse holder bracket as shown in the figure.

Fasten the diagnostic connector to the connector holder and plug it into the holder.

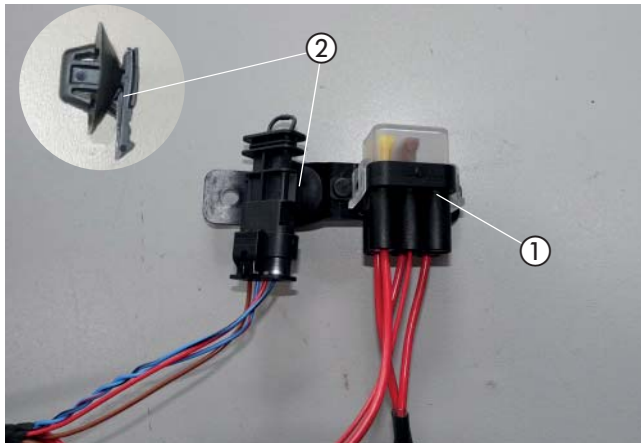


Fig. 14
① Fuse base mounted on the holder
② Connector holder with diagnostic connector

Attach a ring terminal end A6 to the brown 2.5 mm² earth cable.

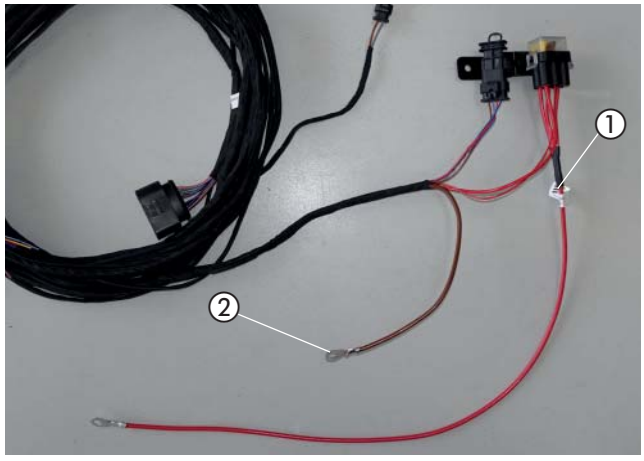


Fig. 15
① Cable harness power supply
② Earth cable with ring terminal ends A6

3 INSTALLATION

INSTALLING THE HEATER BRACKET
(see Fig. 16 to 19)

The heater is installed on the right-hand side of the frame member behind the front wheel.

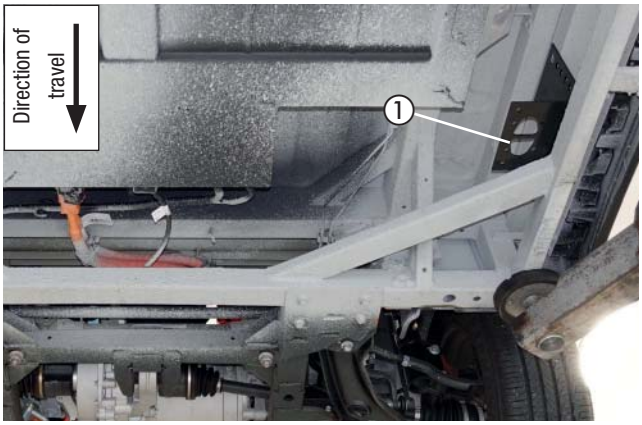


Fig. 16
① Installation position of the heater

Place the heater bracket on the frame and align accordingly.

Mark the two upper bracket bore holes on the profile.

Mark the two bracket bore holes on the lower frame profile as well.

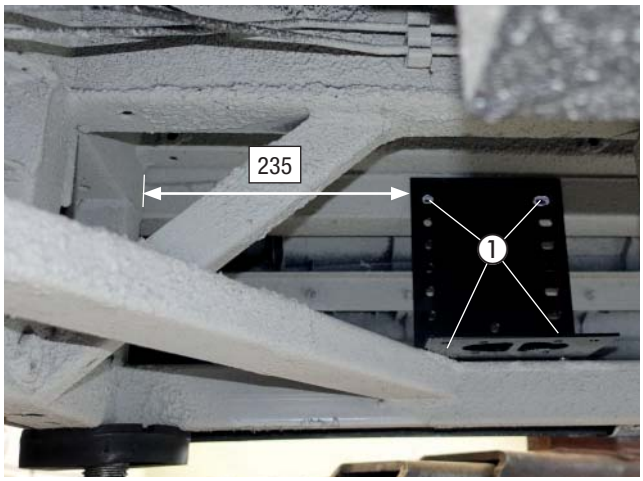
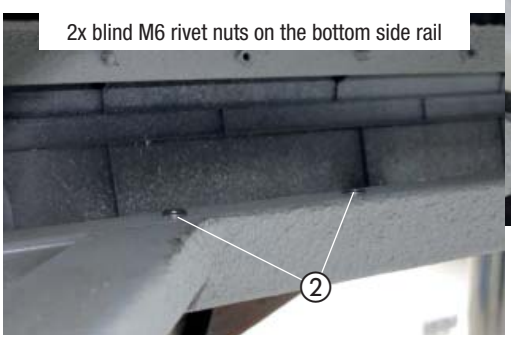


Fig. 17
① Mark the heater bracket bore holes

At the drill markers, drill Ø 9 mm holes into the upper side rail and insert blind (aluminium) M6 rivet nuts in each.

At the drill markers, drill Ø 9 mm holes into the bottom side rail and insert blind M6 rivet nuts in each.



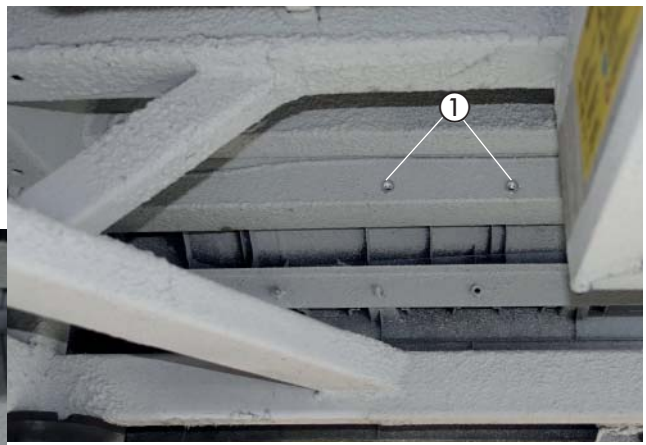
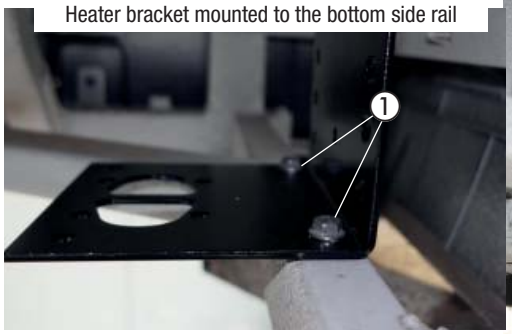


Fig. 18
① 2x inserted blind aluminium rivet nuts M6
② 2x inserted blind rivet nuts M6

3 INSTALLATION

Using 4 bolts M6 x 16, mount the heater bracket as shown in the illustration.

Heater bracket mounted to the bottom side rail



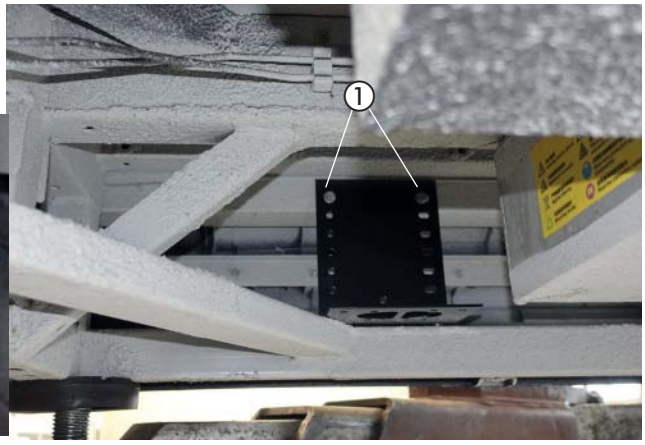


Fig. 19
① Heater bracket mounted with 4x M6 x 16 bolts

INSTALLING THE HEATER
(see Fig. 20)

Insert the heater into the bracket and fasten with 4x M6 nuts and a torque of 5^{+1} Nm.

The intake air inlet points to the rear.

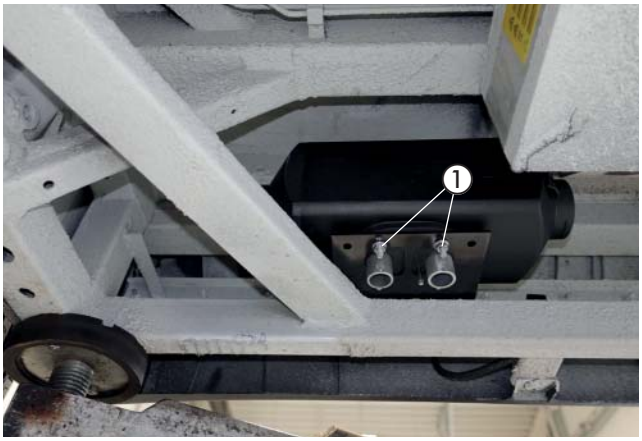


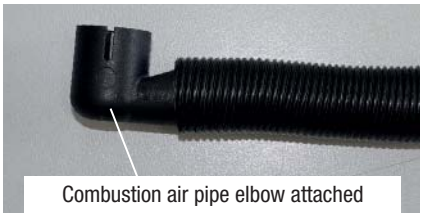
Fig. 20
① Heater installed

CONNECTING AND ROUTING THE COMBUSTION AIR PIPE
(see Fig. 21)

Slide the combustion air pipe elbow onto the combustion air pipe and connect it with a hose clamp Ø 20-32 mm to the heater.

Lay the combustion air pipe in the mounting opening of the battery profile.

Fix the combustion air pipe to the side rail using 2 wide cable ties.



Combustion air pipe elbow attached

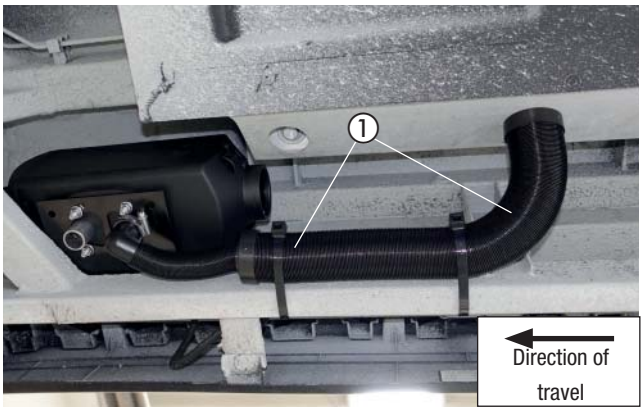


Fig. 21
① Combustion air pipe connected and routed

ATTENTION!
Route the combustion air pipe in such a way that heater can only draw dry and clean combustion air.

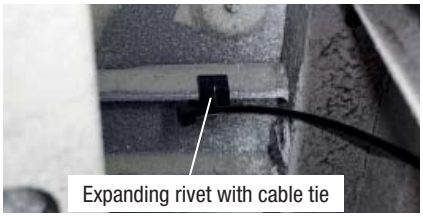
3 INSTALLATION

CONNECTING THE INTAKE AIR HOSE
(see Fig. 22)

Connect the prepared intake air hose to the intake air inlet and secure with a hose clamp Ø 50-70 mm.

Place an expanding rivet with a cable tie on the metal edge above the intake air filter and secure the intake air hose.

Also fix the center of the air intake hose with a cable tie to the frame member.



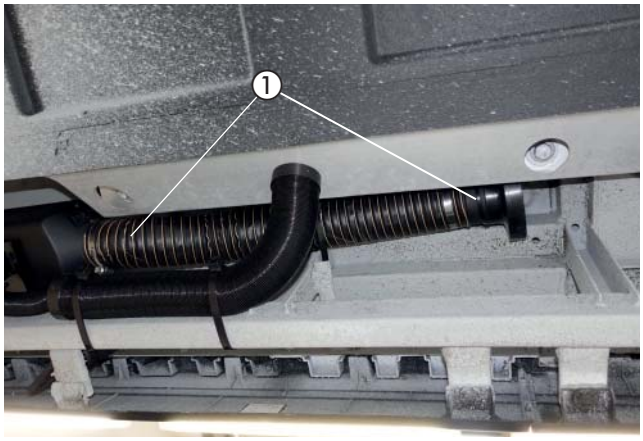


Fig. 22
① Intake air hose mounted to the heater and supported

INSTALLING THE WARM-AIR OUTLET
(see Fig. 23 to 27)

Fold back the carpeting in the driver and front-seat passenger areas.

Using the dimensions in the illustration, drill a Ø 68 mm hole into the floor panel to the right and behind the centre console.

ATTENTION!
Deburr all drilled holes and apply anti-corrosion agent.

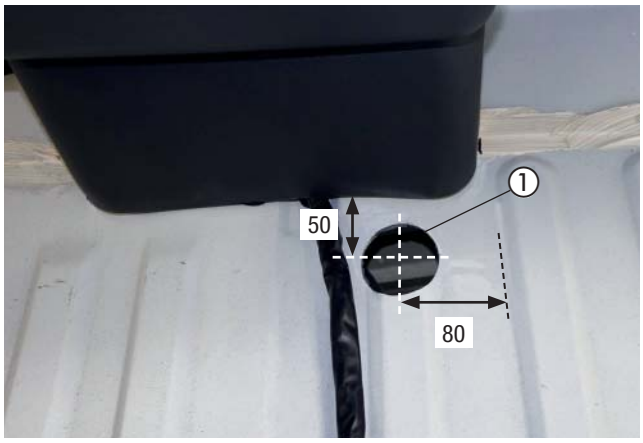


Fig. 23
① Drill a Ø 68 mm hole in the floor panel

Fold the carpeting back into place.

Create a Ø 90 mm opening in the floor covering which is centred above the Ø 68 mm drilled hole.

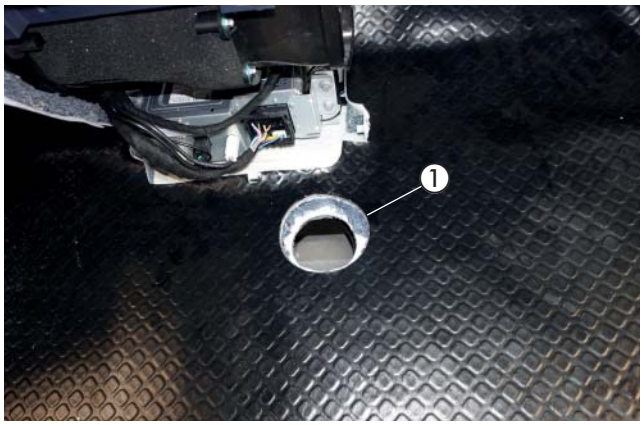


Fig. 24
① Ø 90 mm opening created in the carpeting

3 INSTALLATION

Insert the hose connector Ø 60 mm with body sealer and fasten to the floor panel with 3 bolts 3.9 x 13.



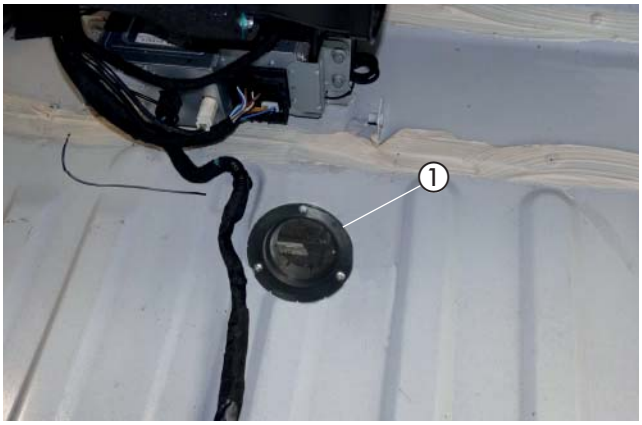


Fig. 25
① Mounted hose connector

Fold the carpeting back into place and reinstall the center console if necessary.

Position the warm-air outlet on the hose connector.



Fig. 26
① Mounted warm-air outlet

Cut the warm-air hose to a length of 900 mm.

Using two hose clamps Ø 50-70 mm, fasten the warm-air hose to the hose connector and to the warm-air exit of the heater.

Fix the warm-air hose to the frame profile with cable ties.

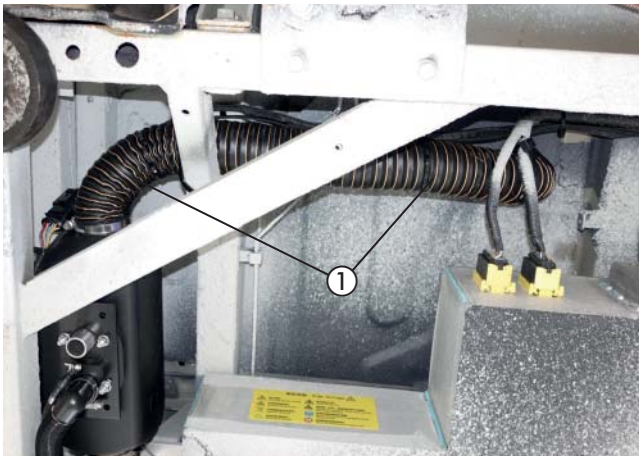


Fig. 27
① Mounted warm-air hose

3 INSTALLATION

MOUNTING AND CONNECTING THE EXHAUST SYSTEM
(see Fig. 28 and 29)

Connect the exhaust pipe with the pipe elbow to the heater.

Hold the silencer against the diagonal support (U profile) and mark the hole positions.

Drill a Ø 7 mm hole and mount the silencer with an M6 x 12 bolt.

Bend the tail pipe downward as shown.



Fig. 28
① Exhaust pipe with silencer mounted

Mount the silencer on the U-profile with an M6 x 12 bolt.

ATTENTION!
When installing the exhaust pipes, maintain sufficient clearance to adjacent body components.

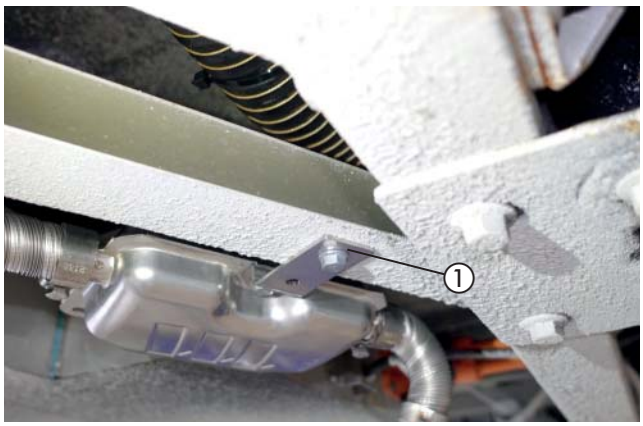


Fig. 29
① Mounted silencer

3 INSTALLATION

ASSEMBLING THE FUEL TANK
(see Fig. 30 to 32)

The fuel tank is installed on the right side of the frame in front of the rear axle.

Inside the right-hand side rail, drill 3 holes Ø 12 mm according to the dimensions in the illustration and insert an M8 blind rivet nut in each.

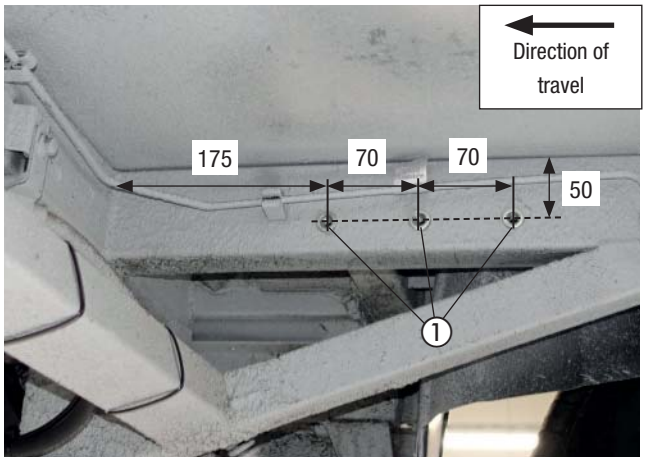


Fig. 30
① 3x blind M8 rivet nuts on the right-hand side rail

On the left-hand side of the centre side rail, drill 3 holes Ø 12 mm according to the dimensions in the illustration and insert an M8 blind rivet nut in each.

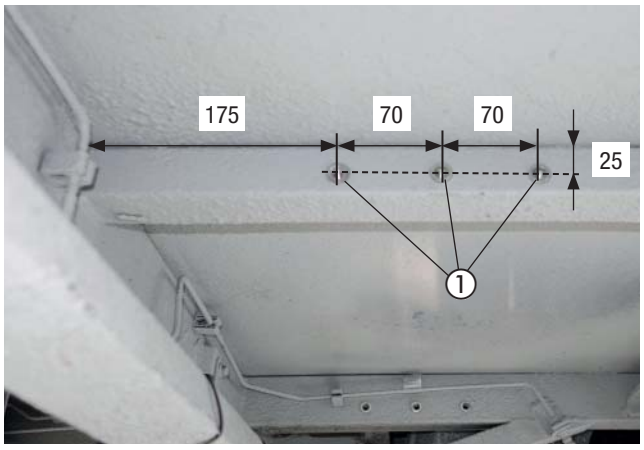


Fig. 31
① 3x blind M8 rivet nuts on the 4th cross member

Mount the fuel tank to the inserted blind M8 rivet nuts with 6 M8 x 20 bolts.

The filler neck points to the left (centre of vehicle).



Fig. 32
① Fuel tank mounted with 6 M8 x 20 bolts

3 INSTALLATION

MOUNTING THE TANK FILLER NECK
(see Fig. 33 to 36)

Drill a Ø 54 mm hole in the left-hand side panel (driver's side in front of the left wheel housing) according to the dimensions in the illustration.

Push the tank filler neck through the drilled hole from the outside and mark the 3 mounting holes. The tail pipe of the filler neck points downwards.

Drill 3 holes Ø 5.5 mm.

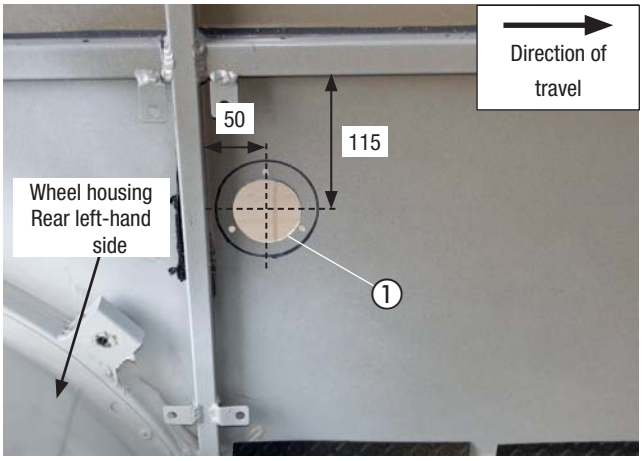


Fig. 33
① Bore holes Ø 54 mm + 3x Ø 5.5 mm in the side panel

Drill a Ø 44 mm hole in the underbody according to the dimensions in the illustration.

PLEASE NOTE!
Drill the holes in the side and floor panels in a straight line.

ATTENTION!
Deburr all drilled holes and apply anti-corrosion agent.

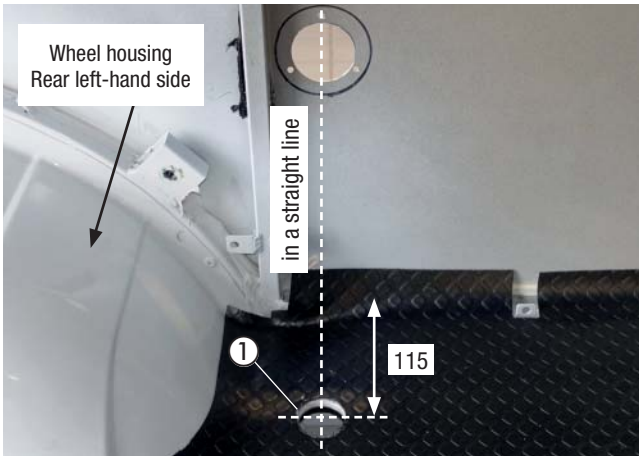


Fig. 34
① Hole Ø 44 mm drilled in the floor panel

Push the tank filler neck through the hole from the outside and mount it with the seal and the mounting ring with 3 countersunk bolts M5 x 16.

Also mount the earth cable on one of the mounting bolts.

Route the earth cable under the carpeting and through the hole in the underbody.

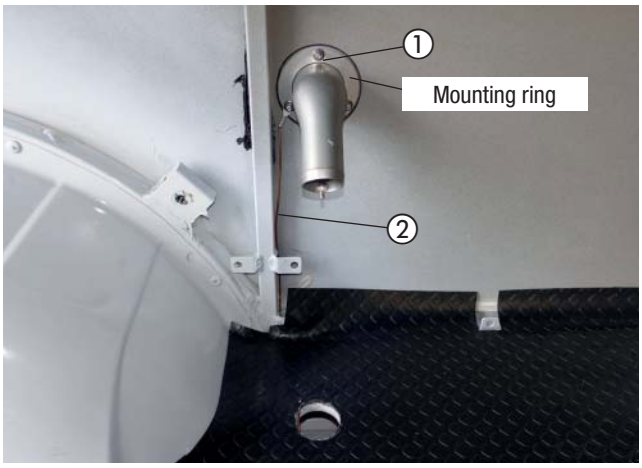


Fig. 35
① Filler neck mounted with 3 countersunk M5 x 16 bolts
② Ground cable

3 INSTALLATION

Screw the petrol cap to the filler neck.

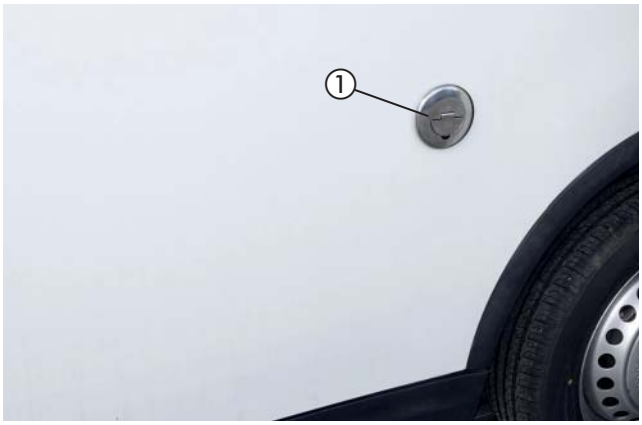


Fig. 36
① Filler neck with petrol cap

INSTALLING THE FILLER PIPE AND FUEL HOSE
(see Fig. 37 to 40)

Reinstall the lining of the side panel.

Push the double pipe elbow (Ø 38 mm 90°+45°) through the opening in the floor panel (45° elbow is at the top).

Cut a length of 120 mm from the Ø 38 mm fuel hose and connect the filler neck to the double pipe elbow.

Secure the fuel hose with 2 clamps Ø 32 – 50 mm.

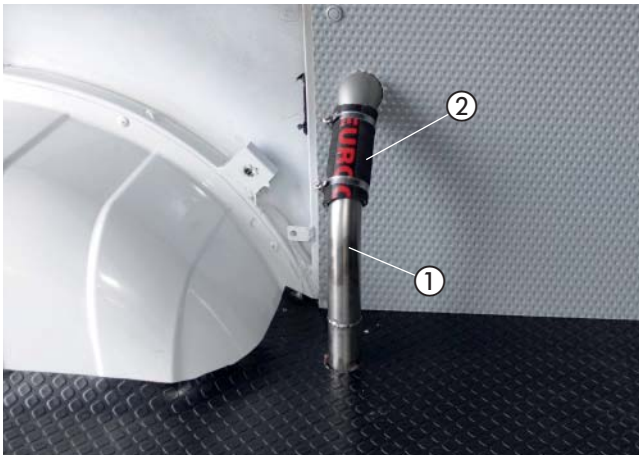


Fig. 37
① Pipe elbow (45° elbow is at the top)
② Fuel hose Ø 38 mm

Insert an M6 blind rivet nut into the existing hole in the cross member in front of the left rear wheel.

Using an M6 x 6 bolt, mount the Z-holder (22 9000 51 1700) to the inserted M6 blind rivet nut as shown in the illustration.

Support the double pipe elbow with a Ø 38 mm clamp at the Z-bracket and mount it together with the earth cable, using an M6 x16 bolt.

Push the Ø 38 mm fuel hose onto the double pipe elbow and secure it with 2 hose clamps Ø 32 – 50 mm.

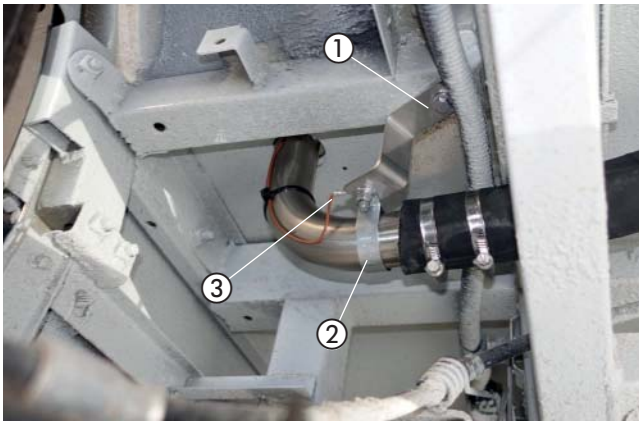


Fig. 38
① Z bracket (22 9000 51 1700) mounted to the cross member
② Pipe elbow supported with a Ø 38 mm clamp
③ Earth cable connected

3 INSTALLATION

Connect the Ø 38 mm fuel hose to the filler neck of the fuel tank and secure with 2 hose clamps Ø 32-50 mm.

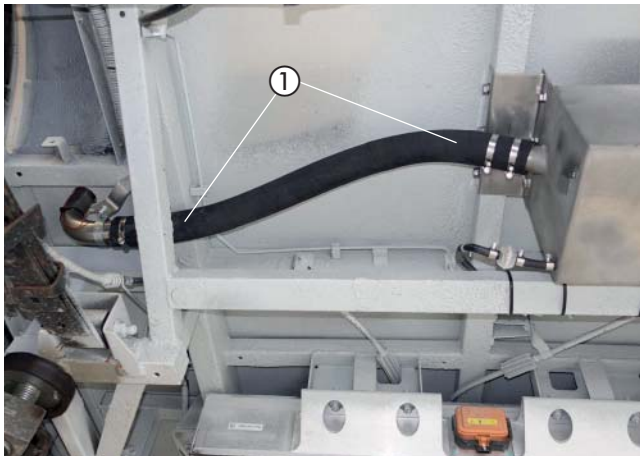


Fig. 39
① Connected fuel hose Ø 38 mm

Seal the double pipe elbow at the opening in the underbody from above and below with body sealer.

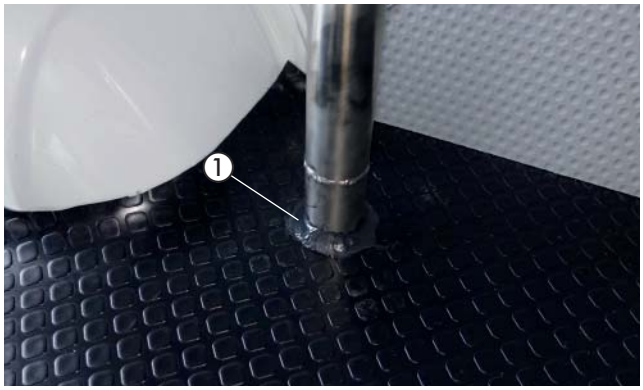


Fig. 40
① Double pipe elbow with body sealer

INSTALLING FILLER NECK COVER
(see Fig. 41)

In the cargo compartment, position the cover over filler neck and elbow.

Mark the two upper attachment points of the cover on the body strut of the side panel and drill 2 holes Ø 3 mm.

Mount the cover on the upper attachment points with 2 self-tapping screws M6 x 6.

Mount the cover on the lower attachment points with 2 M5 body bolts.

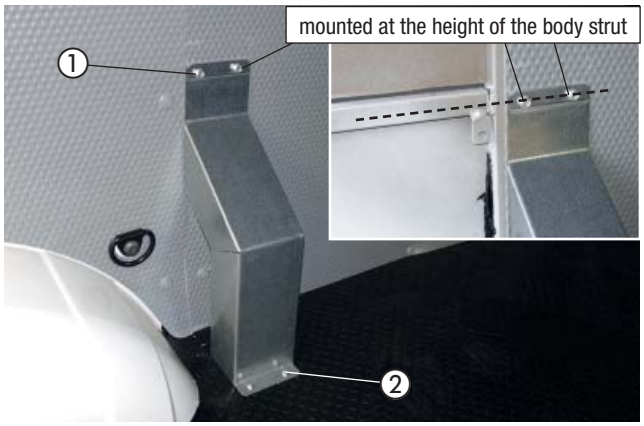


Fig. 41
① 2x self-tapping screws M6 x 16
② 2x body bolts M5

3 INSTALLATION

CONNECTING THE VENT HOSE
(see Fig. 42 and 43)

Connect the prepared vent hose Ø 7 mm to the vent connection of the fuel tank.

Route the vent hose on the underbody to the left-hand rear bumper stop as shown in the illustration.



Connected vent hose Ø 7 mm

Dismantle the left-hand rear light.

Route the vent hose with the ventilation element in the duct behind the rear light and fix it with cable ties.

Reinstall the rear light on the vehicle.

PLEASE NOTE!
Secure the vent hose with cable ties at suitable points.

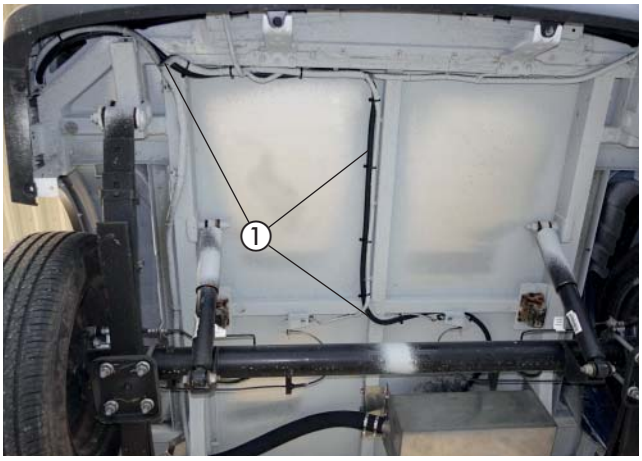


Fig. 42
① Vent hose Ø 7 mm installed on the underbody



Fig. 43
① Vent hose with ventilation element

CONNECTING THE LEVEL SENSOR
(see Fig. 44)

Connect the sheathed cable 2 x 1 mm² with the (red) butt connector to the level sensor cable.

Then route the sheathed cable together with the fuel pipe.

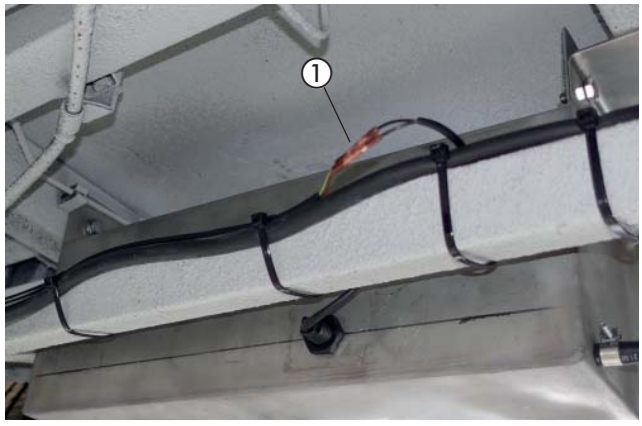


Fig. 44
① Connected sheathed cable

3 INSTALLATION

MOUNTING AND CONNECTING THE METERING PUMP
(see Fig. 45 and 46)

Drill a hole Ø 9 mm into the right-hand joint of the body frame (in front of the rear axle) and insert an M6 blind rivet nut.

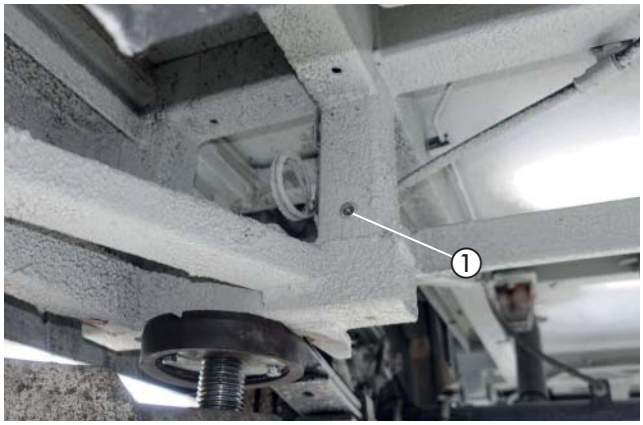


Fig. 45
① M6 blind rivet nut inserted in the frame profile

Mount the pre-assembled metering pump on the inserted blind rivet nut M6 with a bolt M6 x 20 and a large diameter washer B6.

Pay attention to the installation position and allow for a gradient of at least 15° on the pressure side.

Connect the fuel pipe (suction line), including the fuel hose Ø 3.5 mm, with a clamp Ø 9 mm on the intake manifold of the metering pump.

Connect the fuel pipe (pressure line) to the discharge port of the metering pump with a clamp Ø 9 mm and route it forward to the heater.

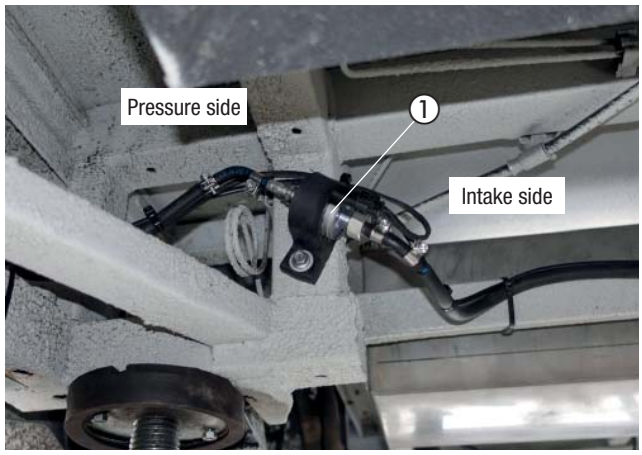
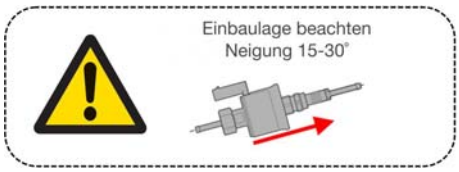


Fig. 46
① Installed and connected metering pump

PLEASE NOTE!
Secure all connections with clamps Ø 9 mm.



3 INSTALLATION

ROUTING THE FUEL PIPE
(see Fig. 47 to 49)

Connect the fuel pipe (suction line), including fuel filter and fuel hose Ø 5 mm, to the fuel tank socket.

⚠ ATTENTION!
Check the fuel socket at the fuel tank for tight fit (tightening torque 7 $^{+0.5}$ Nm).

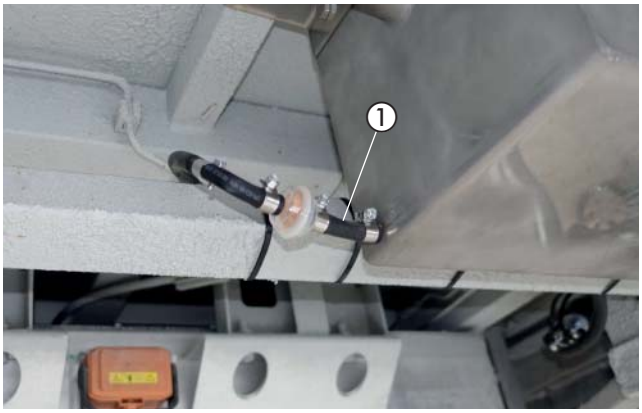


Fig. 47
① Connected fuel pipe (suction line)

Using cable ties, fasten the fuel pipe (suction line) together with the 2 x 1 mm² sheathed cable to the frame profile.

Route the sheathed cable 2 x 1 mm² along the frame profile to the front.

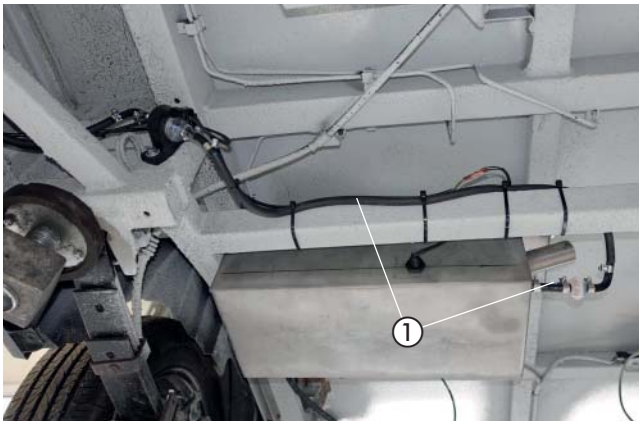


Fig. 48
① Fuel pipe (suction line) connected and laid

Connect the fuel pipe (pressure line), including fuel hose bend 105°, with a hose clamp Ø 10 mm to the fuel socket of the heater.

Route the sheathed cable forward into the engine compartment.

Secure all laid cables at suitable points with cable ties.

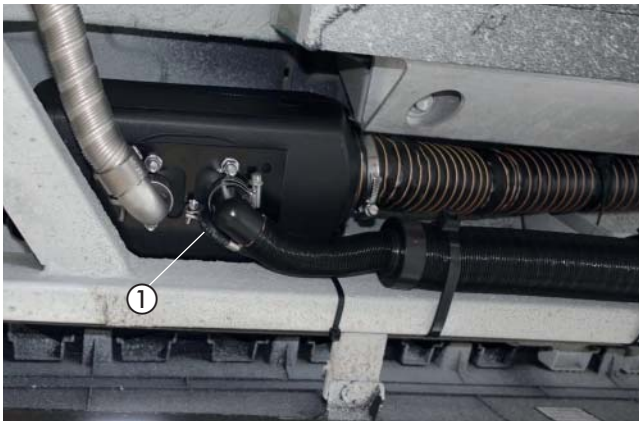


Fig. 49
① Fuel pipe (pressure line) connected to heater

3 INSTALLATION

MOUNTING THE FUSE HOLDER
(see Fig. 50)

Mount the bracket with the fuse base to the existing engine control unit bolt.

Route the heater wiring harness, including the 10-pin connector and the 2-pin wiring harness of the metering pump, to the rear of the vehicle towards the heater or the metering pump.

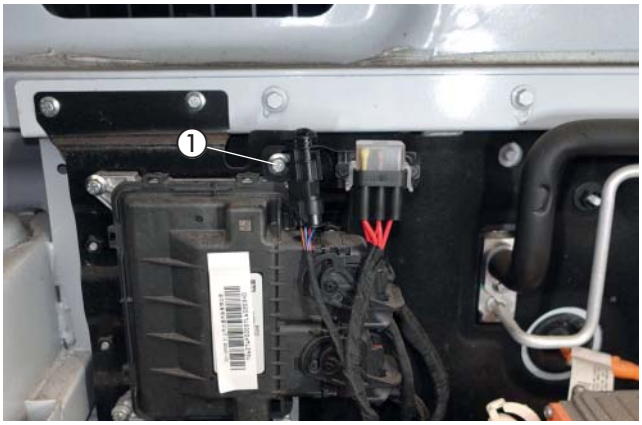


Fig. 50
① Mounted fuse base bracket

CONNECTING AND ROUTING THE HEATER WIRING HARNESS
(see Fig. 51 to 53)

Route the heater wiring harness in the engine compartment (as shown in the illustration) from the fuse holder to the left side of the vehicle.

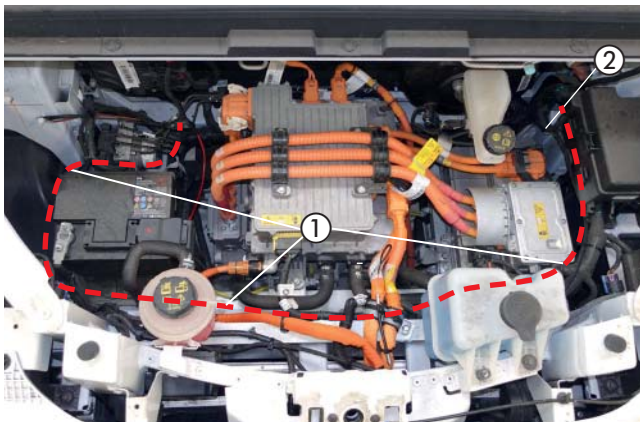


Fig. 51
① Routing the main wiring harness in the engine compartment
② Cable grommet into the passenger compartment

Route the “control unit” wiring harness through the vehicle's on-board cable grommet along the left-hand side of the engine compartment and into the
passenger compartment.

Rout the heater and metering pump wiring harnesses to the underbody.

ATTENTION!
When routing wiring harnesses, always ensure sufficient clearance to moving vehicle parts. Secure the wiring harness with cable ties at suitable points.

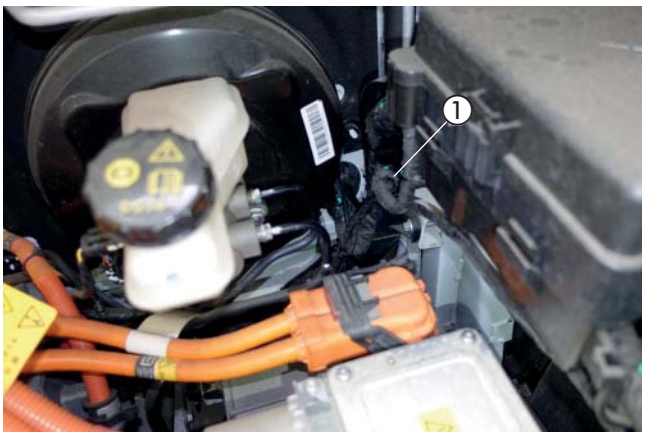


Fig. 52
① On-board cable grommet inside the passenger compartment

3 INSTALLATION

Route the heater and metering pump wiring harnesses to the right-hand side of the vehicle.

Connect the 10-pin connector of the heater wiring harness to the mating connector of the heater.

Route the metering pump cable from the heater to the metering pump and connect it.

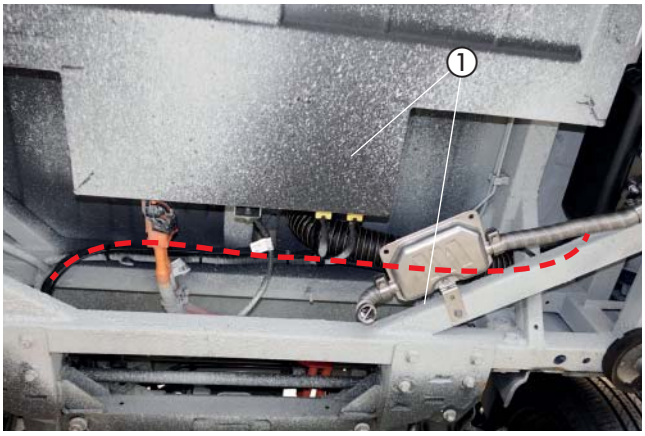


Fig. 53
① Wiring harness fixed with 2x rubber-lined clamps Ø 20 mm

POWER SUPPLY
(see Fig. 54)

Route the red 4 mm² positive cable as shown in the figure to the 12V battery and connect it with the cable terminal A6 to the positive pole.

Route the brown 2.5 mm² earth cable to the earthing point on the right-hand side of the suspension leg turret and connect it with the cable terminal A6.

ATTENTION!
Insert fuses only after the installation has been completed.

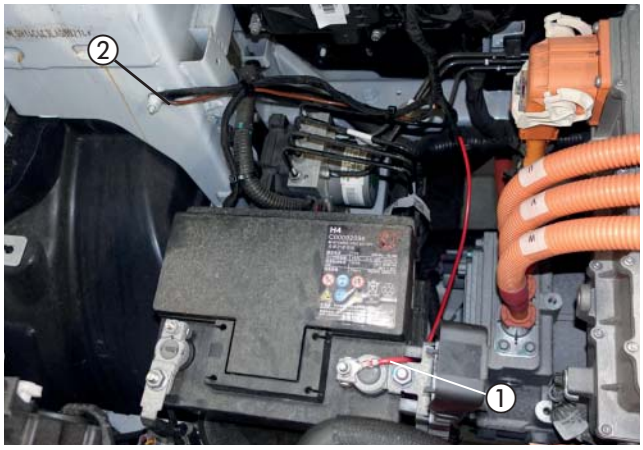


Fig. 54
① Connected red positive cable 4 mm²
② Connected brown earth cable 2.5 mm²

3 INSTALLATION

INSTALLING THE FUEL RESERVE INDICATOR
(see Fig. 55 to 58)

Install the indicator light into the lining to the right of the light switch unit as shown in the figure.

To do this, drill a Ø 20 mm hole and insert the indicator light.

PLEASE NOTE!
Determine the installation location of the indicator light in consultation with the customer.



Fig. 55
① Installed indicator light

Cut off the existing socket at the fuse splice and attach a 4.8 mm socket.

Insert the mini fuse 5A into the slot with the outlet.

Find a slot with terminal 15 (+12 V switched) on the fuse block and remove the fuse.

Insert the fuse into the slot of the fuse splice.

Insert the 4.8 mm socket into the indicator light.

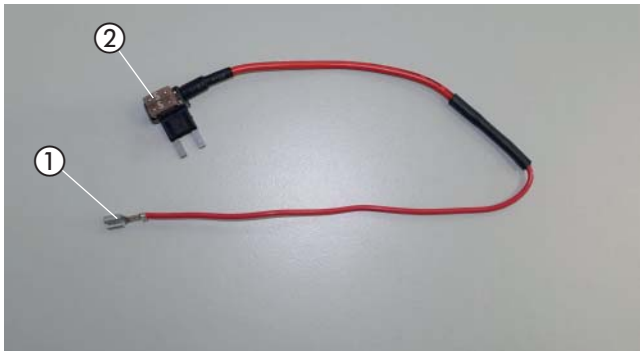


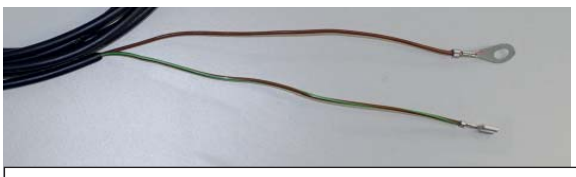
Fig. 56
① Attached 4.8 mm socket
② Fuses inserted

Route the sheathed cable 2 x 1 mm² along the heater wiring harness, through the cable grommet, and into the passenger compartment.

Remove ca. 20 cm sheathing from the sheathed cable. Attach a ring terminal end A6 to the brown cable and a 4.8 mm socket to the brown/green cable.

Insert the 4.8 mm socket into the indicator light.

Connect the ring terminal end A6 to the existing earth point above the fuse block.



Prepared sheathed cable with ring terminal end A6 and socket

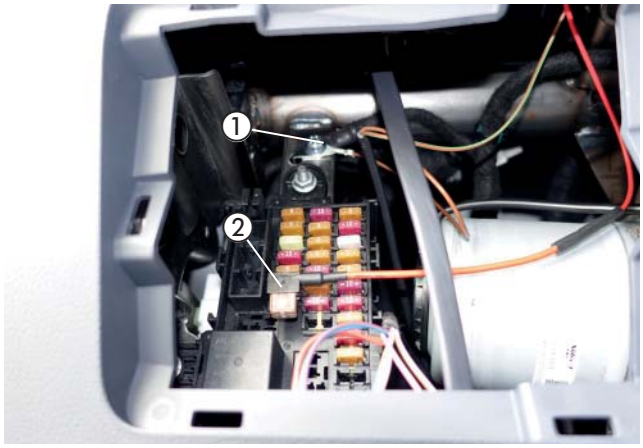


Fig. 57
① Brown cable 1 mm² connected to the earth point
② Fuse splice plugged into the fuse block

3 INSTALLATION

Connect the fuel reserve indicator light and the level sensor according to the wiring diagram.

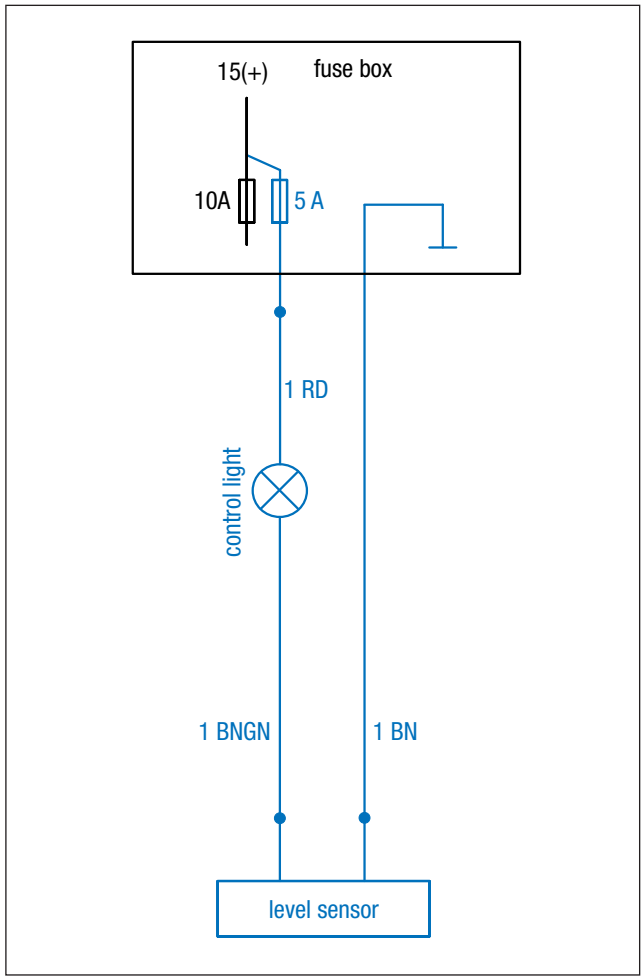


Fig. 58
① Level sensor wiring diagram with indicator light

INSTALLING THE EASYSTART PRO CONTROL ELEMENT
(Alternative proposal – consult with the customer)
(see Fig. 59)

The EasyStart Pro is installed according to the relevant installation instructions.

Mount the control element on the free panel space below the air outlet on the driver's side.



Fig. 59
① Installed Easy Start Pro

3 INSTALLATION

INSTALLING THE REMOTE CONTROL EASYSTART REMOTE/REMOTE+ OR EASYSTART WEB
(Alternatively, consult with the customer)
(see Fig. 60 to 62)

The installation follows the radio remote control Easy Start Remote+ technical description or the EasyStart Web technical description. See the "Installation Instructions" section.

Mount the button for the control element on the dashboard panel next to the shift lever.

To do this, drill a Ø 10 mm hole and insert the button into the bore hole.



Fig. 60
① Installed remote control button

Mount the stationary part of the control unit on the strut under the left-hand dashboard panel.

Attach the temperature sensor to the panel in the driver's footwell.

Route the cables from the mounted button and temperature sensor, including "control unit" wiring harness, to the installation location of the stationary part and connect to the stationary part.



Fig. 61
① Stationary part control unit

Using an M6 x 16 bolt, mount the stationary part of the control unit on the existing bore hole.

ONLY WHEN INSTALLING A RADIO REMOTE CONTROL ESYSTART REMOTE+
Connect the antenna cable of the EasyStart Remote+ to the stationary part. Route it to the left and install it in the door's rubbers seal on the driver's side.

ATTENTION!
Secure any excess antenna cable under the dashboard with cable ties.

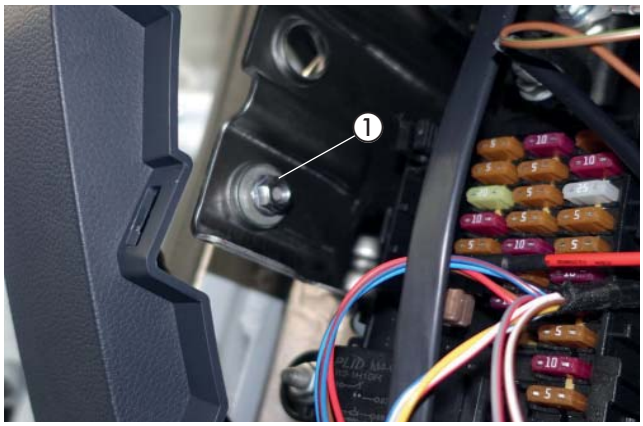


Fig. 62
① Stationary part control unit mounted on the strut

4 AFTER THE INSTALLATION

AFFIX THE “REFUEL” INFORMATION STICKER
(see Fig. 63)

Glue the “Refuel” information sticker in the driver's field of vision behind the fuel reserve indicator light.



Fig. 63
① “Refuel” information sticker

APPLYING THE DUPLICATE NAMEPLATE
(see Fig. 64)

Adhere the duplicate nameplate to the B-pillar on the driver's side.



Fig. 64
① “Refuel” information sticker

COMPLETING THE VEHICLE

- Assemble all removed parts in reverse order.
- Reconnect the battery.
- Check the hose lines, hose and pipe clamps and all electrical connections for tight fit.
- Secure all loose cables with cable ties.
- Restore all programming in the vehicle (radio, power windows, etc.):
- Observe the legal regulations and safety instructions in the technical descriptions.
- Program the control element and put the operating instructions in the glove compartment.

FUNCTIONAL TEST

- Turn on the heater until warm air exits from the air outlet
  .

COMMISSIONING THE HEATER

- Switch on the heater at the control element.
  See Operating Instructions – Control Element.

5 PARTS OVERVIEW

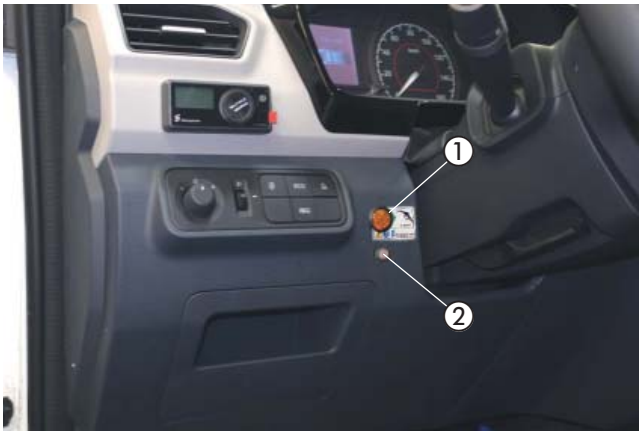


Fig. 65

LEAFLET FOR THE CUSTOMER (please print)

NOTE ON THE FUEL RESERVE INDICATOR LIGHT

The fuel tank has a capacity of approx. 14 liters.
The fuel reserve indicator lights up when the fuel level is less than 3.5 liters.



① Fuel reserve indicator
② Button with operating display for the parking heater

NOTE FOR THE TEMPERATURE SETTING ON THE CLIMATE CONTROL UNIT

When using the parking heater while driving, switch off the vehicle's air conditioning system or set the same temperature setting as on the heater.



① Climate control panel of the vehicle

PLEASE NOTE!

- The pre-heater should be switched on at least once a month for at least 10 minutes (also in the summer months). This prevents the fuel from separating and ensures correct operation in the winter months.

Headquarters:
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73730 Esslingen
Hotline: 03976 2350 235
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Eberspächer

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Subject to change without notice
11.2023 EN
25 2721 95 3364

Test object : fuel tank made in stainless steel
Type of vehicle : n.a.
Applicant : Eberspächer Torgelow GmbH & Co. KG

Technical Report No. 234XS0022-01

Fuel tank made in stainless steel of company
Kraftstoffbehälter aus Edelstahl der Firma

Eberspächer Torgelow GmbH & Co. KG
Wilhelmstraße 47
D-17358 Torgelow

Our reference	: KT-mm/ms	This report consists:	
Originator	: Dipl.-Ing. Markus Meyer	Number of pages	: 8
Version	: PDF	Enclosures	: 4

Berlin, 2023-07-03

Testing of a fuel tank made in stainless steel
Prüfung eines Kraftstoffbehälters aus Edelstahl

according to UN Regulation No. 34 including Supplement 02 to Amendment 03 of 2019-05-28
gemäß den Anforderungen der UN Regelung Nr. 34
einschließlich Ergänzung 02 zu Änderung 03 vom 2019-05-28

according to Japanese testing standard TRIAS 15-J016-02 "Plastic fuel tank test procedure for passenger motor vehicle"
gemäß japanischer Prüfvorschrift TRIAS 15-J016-02

Applicant Antragsteller	:	Eberspächer Torgelow GmbH & Co. KG Wilhelmstraße 47 D-17358 Torgelow

1. Description of vehicle
Technische Daten zum Fahrzeug

Name or trademark of vehicle Fabrikmarke (Firmenbezeichnung)	:	Eberspächer
Type(s) of vehicle Typ(en)	:	n.a.
Commercial descripton(s) Handelsbezeichnung(en)	:	n.a.
Versions Ausführungen	:	Variante 1 – Kurzes Einfüllrohr Variante 2 – Langes Einfüllrohr
Kind of engine Antriebsart	:	diesel/Diesel petrol/Benzin
Kind Art	:	n.a.
Class of vehicle Klasse des Fahrzeuges	:	n.a.

Name and address of manufacturer Name und Anschrift des Herstellers	:	Torgelower Metallwaren GmbH Wilhelmstraße 47 D-17358 Torgelow

2. Description of the tank versions
(Beschreibung der Behälterausführungen)

Drawing from the tank (Der untersuchte Behälter entsprach in seiner Formgebung und in seinen Abmessungen den Zeichnungen)

Zeichnungsnr. / Drawing no. Artikelnr. / Part no.	Beschreibung / Description	Änderungsindex/ Change index
22.9000.20.0471.A	Fuel Tank, Pressure-Tank	2023-02-02
10002906	Filler Pipe long	2023-04-14
421451	Filler Pipe short	190910/HH
421910-422944	Filler Cap	190912/HH
992001	Sealing ring for filler cap	211006/LW
8620307	Connecting hose	EN 12115:11
22.9000.52.0117.0A	Cover Cargo Area	18.04.2023

Description of the tank ***Beschreibung des Behälters***	
Variant(s) *Variante(n)*	n.a.
Name of fuel tank manufacturer *Hersteller des Behälters*	Torgelower Metallwaren GmbH Wilhelmstraße 47 D-17358 Torgelow
Name of material manufacturer *Werkstoffhersteller*	n.a.
Trademark of material *Handelsname des Werkstoffes*	Edelstahl 1.4301
Density of material *Werkstoffdaten (DIN 53 479)* *Dichte Material*	7,9 kg/dm³
Tank weight inclusive accessories *Behältergewicht mit Zubehör* *Var. 1* *Var. 2*	 6,74 kg 7,41 kg
Nominal capacity of fuel tank *Nennvolumen in Liter*	14 l

Mounting of the tank assembly Behälterunterbringung und -befestigung	:	according to the manufacturers instructions nach Vorgaben des Fahrzeugherstellers

Colour of the tank Farbe des Behälters	:	silver silber
Manufacturing method Herstellungsverfahren	:	welded

3. Test proportions
Prüfumfang

3.1 Test objects and generell informations
Prüfobjekt(e) und allgemeine Angaben zur Prüfung

Test period(s) Prüfungszeitraum	:	27th of February 2023
Test place(s) Ort(e) der Prüfung	:	TÜV Rheinland Kraftfahrt GmbH Pichelswerderstrasse 9 D-13597 Berlin Germany
Description of test objects Kennzeichnung der Prüfobjekte	:	23-930-TL-11-59

3.2 Resistance to corrosion (Korrosionsfestigkeit)

The resistance to corrosion of the fuel tank is ensured by the following measures:

Der Korrosionsschutz des Kraftstoffbehälters wird durch folgende Maßnahmen gewährleistet

Inside and outside Innen und außen	:	Stainless steel Edelstahl

The materials of the accessory parts are to be judged as sufficient corrosion resistant to the filling medium and also outside environmental influences.

Die verwendeten Zubehörteile können als korrosionsfest gegen das Betriebsmedium und äußere Beeinflussungen angesehen werden.

3.3 Hydraulic test (Hydraulische Prüfung)

The isolated tank version fitted with all necessary accessories was subjected to a hydraulic test.

Die mit allen notwendigen Ausrüstungsteilen versehene Kraftstoffbehälterausführung wurde einer hydraulischen Prüfung unterzogen.

Ambient temperature Umgebungstemperatur	:	+ 23 +/- 2 degrees Centigrade + 23 +/- 2 Grad Celsius
Test liquid Prüfflüssigkeit	:	water Wasser
Temperature of test liquid Temperatur der Prüfflüssigkeit	:	+ 23 +/- 2 degrees Centigrade + 23 +/- 2 Grad Celsius
Filling capacity Füllmenge	:	100 % 100 %
Gauge pressure Druck	:	min. 300 mbar resp. double the system working pressure min. 300 mbar bzw. doppelter max. Betriebsarbeitsdruck
Period of test Versuchsdauer	:	in minimum 1 minute mind. 1 Minute

The fuel tank did not leak or crack and was not permantely deformed resp. the operating security of the tank wasn`t reduced.

Der Behälter blieb dicht und unbeschädigt. Verformungen bildeten sich nach der Prüfung zurück bzw. bedeuteten keine Beeinträchtigung der Betriebssicherheit.

The requirements of UN Regulation No. 34 and TRIAS 15-J016-02 are hereby fulfilled.

Die Anforderungen gemäß UN Regelung Nr. 34 und TRIAS 15-J016-02 sind damit erfüllt.

(**see photographs 1 to 2, Appendix 1** / siehe Fotos 1 bis 2, Anlage 1)

3.4 Overturn-Safety (Umsturzsicherheit)

The tank was turned from its installed positions around the vehicle longitudinal axis.

Der Behälter wurde in verschiedenen Positionen um die Fahrzeuglängsachse gekippt.

Mounting Befestigung	:	corresponding to the mode of installation on the vehicle in einem die tatsächlichen Einbaubedingungen simulierendes Prüfgestell
Kind of liquid Füllmedium	:	water (Wasser)
Capacity Füllmenge	:	1. 30 % of its nominal capacity 30 % des Nennvolumens 2. 90 % of its nominal capacity 90 % des Nennvolumens
Fuel-tank position Behälterneigung um Fahrzeuglängsachse	:	A 90 degrees/Grad B 180 degrees/Grad C -90 degrees/Grad D -180 degrees/Grad
Testing time Prüfdauer	:	5 min. in every position (A-D) in Position A-D jeweils 5 Minuten
Staffing fuel tank Rüstzustand Tank	:	Tankdeckel-Nr./tank cap No.: 421910-422944 (V2 200527/AG)

The overturn-safety test is performed once without pressurization and once with pressurization.

Der Drehversuch wird einmal ohne Druckbaufschlagung und einmal mit Druckbeaufschlagung gefahren

No leakages

Es traten keine Leckagemengen aus dem Behälter aus.

The requirements of UN Regulation No. 34 and TRIAS 15-J016-02 are hereby fulfilled.

Die Anforderungen gemäß UN Regelung Nr. 34 und TRIAS 15-J016-02 sind damit erfüllt.

(**see photographs 3 to 6, Appendix 1** / siehe Fotos 3 bis 6, Anlage 1)

4. Test results (Prüfergebnisse)

On the basis of these results it is not to expect that the mechanical, chemical or thermal influences by the operation of the vehicle will cause any damage of the fuel tanks.

The tested fuel tanks made in stainless steel of company Eberspächer Torgelow GmbH & Co. KG, Germany, meet in the tested positions the requirements of UN Regulation No. 34 and of Japanese testing standard TRIAS 15-J016-02.

Nach dem Ergebnis ist nicht damit zu rechnen, dass die beim Betrieb des für den Einbau vorgesehenen Fahrzeuges zu erwartenden mechanischen, thermischen und chemischen Beanspruchungen zur Schädigung der Behälter führen werden.

Die von uns geprüften Kraftstoffbehälter aus Edelstahlblech der Fa. Eberspächer Torgelow GmbH & Co. KG, Deutschland, genügen hinsichtlich der durchgeführten Untersuchungen den Anforderungen der UN Regelung Nr. 34 und der japanischen Prüfvorschrift TRIAS 15-J016-02.

The following tests have not been made or modified:
Folgende Untersuchungen wurden nicht bzw. modifiziert durchgeführt:

Flame impact security (Flammendurchschlagsicherheit)

As a result of technical construction and diameters of fuel pipes all vent openings must be evaluated to be well protected against flame impact.

Die Be- und Entlüftungsöffnungen sind aufgrund der technischen Ausführung und der Leitungsquerschnitte als ausreichend gesichert gegen Flammendurchschlag zu bewerten.

Electrostatic charge (Elektrostatische Aufladung)

The fuel tank and its equipment is bonded in a manner that there is no potential of explosion due to sparks from the tank material. The metallic filler pipe and the tank shell are in conductive manner bonded with the bodywork of the vehicle.

Der Kraftstoffbehälter mit seinen Zubehörteilen ist so gestaltet und eingerichtet, dass unter normalen Betriebsumständen keine Ladungstrennungen auftreten können, die zu gefährlichen Funkenbildungen führen. Der metallische Einfüllstutzen und der Tankkorpus sind leitend mit der Karosserie verbunden.

The requirements of UN Regulation No. 34 and TRIAS 15-J016-02 are hereby fulfilled.

Die Anforderungen gemäß UN Regelung Nr. 34 und TRIAS 15-J016-02 sind damit erfüllt.

5. Remarks (Schlußbemerkungen)

If essential parts of the vehicle - especially concerning the installation of the fuel tanks – or material, manufacturing method, dimensions or mounting of the tanks have been changed, a new approval by the TÜV Rheinland Kraftfahrt GmbH is necessary.

Die Gebrauchsfähigkeit der Behälter ist zu überprüfen, wenn wesentliche Teile des Fahrzeuges, die zu einer Veränderung der Einbauverhältnisse führen, die Behälterunterbringung, die Behälterbefestigung, die Behälterabmessungen, der Behälterwerkstoff oder das Herstellungsverfahren geändert werden. Hierüber ist ein Nachtragsgutachten der TÜV Rheinland Kraftfahrt GmbH einzuholen.

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6. List of Appendices (Verzeichnis der Anhänge)

0 List of modifications (Liste der Änderungen)

1 Photo documentation (Fotodokumentation) : Photos 1 – 6 / Fotos 1 - 6

2 Description Sheet No. (Beschreibungsbogen Nr.) : n.a.

The test laboratory is designated for the above mentioned tests by the Kraftfahrt-Bundesamt, Federal Republic of Germany, with Designation-number: KBA-P 00010-96.

Das Prüflaboratorium ist für das o.g. Prüfverfahren benannt durch das Kraftfahrt-Bundesamt, Bundesrepublik Deutschland, unter der Benennungs-Nummer: KBA-P 00010-96.

Berlin, 2023-07-03

Dipl.-Ing. Markus Meyer

List of modifications (Liste der Änderungen) **Appendix** (Anlage) **0**

Correction of / Berichtigung : --*

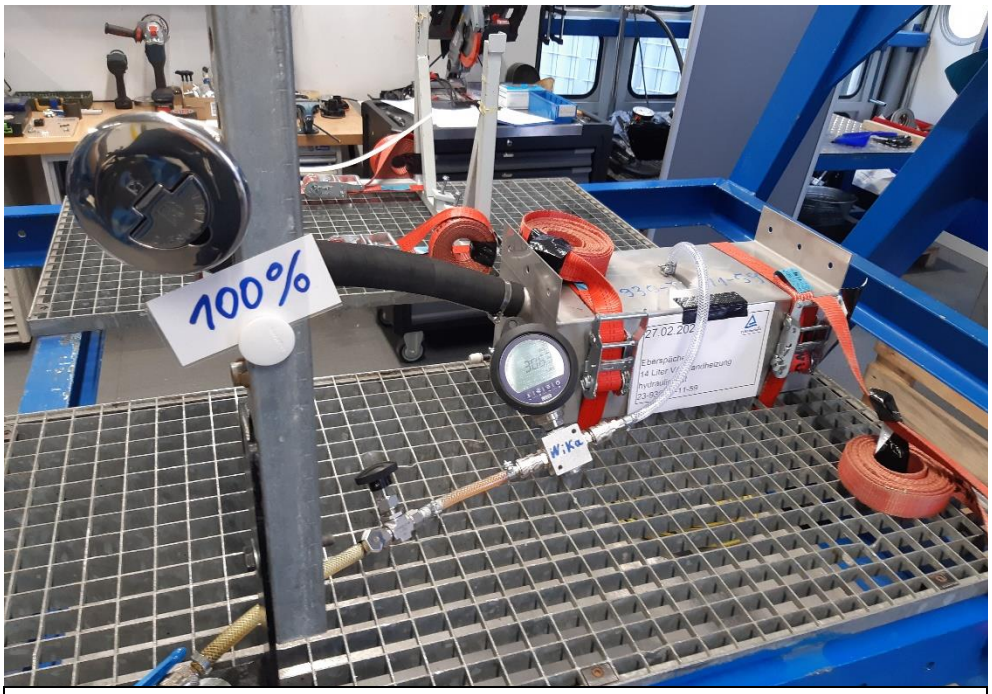
Modification of / Änderung : - Discription of the vehicle (Item 1.)
- Discription of the tank (Item 2.)

Addition of / Hinzufügung : --*

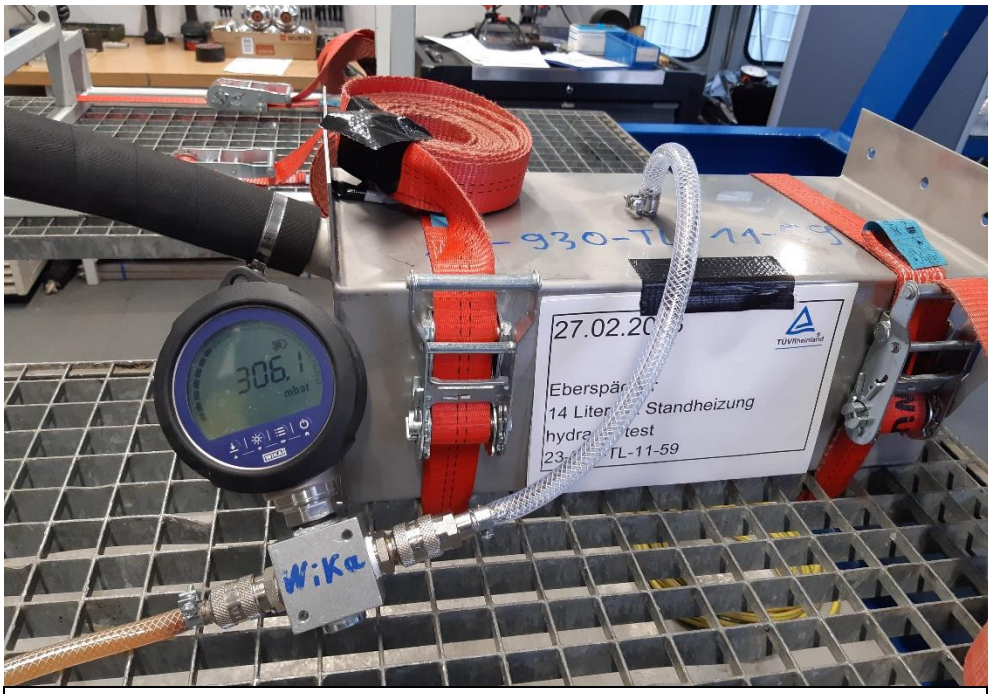
Deletion of / Entfernung : --*

Test object : **fuel tank made in stainless steel**
Type of vehicle : **n.a.**
Applicant : **Eberspächer Torgelow GmbH & Co. KG**

Photo documentation (Fotodokumentation) **Appendix** (Anlage) **1**



Photograph 1: Fuel Tank System in Hydraulic Test



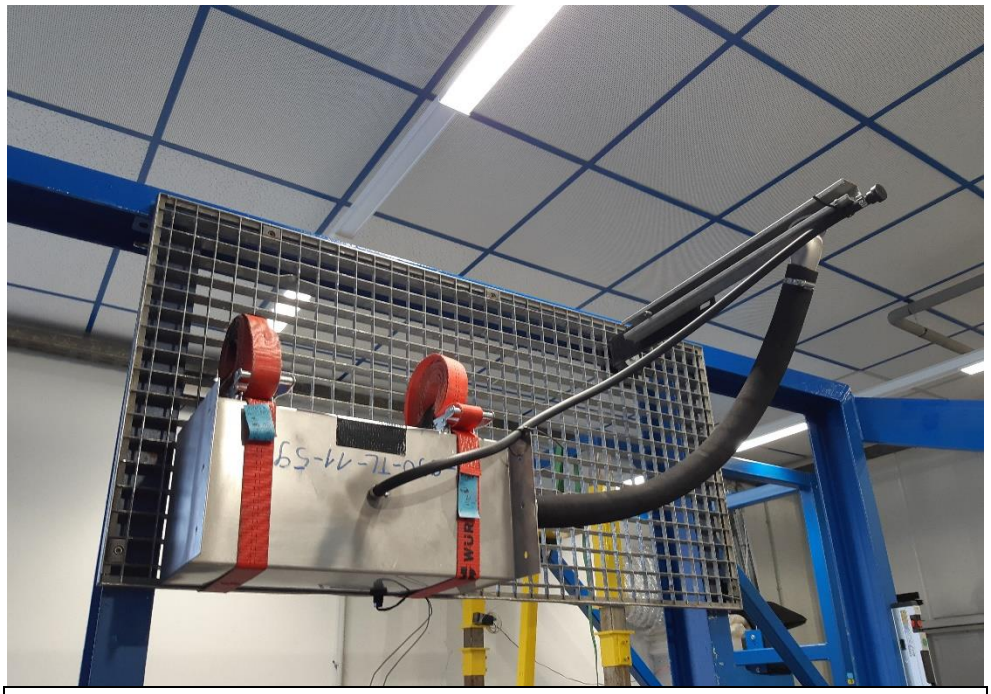
Photograph 2: Fuel Tank System in Hydraulic Test

Test object : **fuel tank made in stainless steel**
Type of vehicle : **n.a.**
Applicant : **Eberspächer Torgelow GmbH & Co. KG**

Photo documentation (Fotodokumentation) **Appendix** (Anlage) **1**



Photograph 3: Fuel Tank System in Roll-over-Test



Photograph 4: Fuel Tank System in Roll-over-Test

Test object : **fuel tank made in stainless steel**
Type of vehicle : **n.a.**
Applicant : **Eberspächer Torgelow GmbH & Co. KG**

Photo documentation (Fotodokumentation) **Appendix** (Anlage) **1**



Photograph 5: Fuel Tank System in Roll-over-Test



Photograph 6: Fuel Tank System in Roll-over-Test