TECHART

ASSEMBLY INSTRUCTIONS

TECHART Noselift System

only in combination with standard chassis

Part-no. 092.200.800.009 **992 Left-hand-drive**
Part-no. 092.200.860.009 **992 Right-hand-drive**

Contents

I Important safety information

All of the necessary work must be performed by qualified persons with an appropriate level of expertise.

WARNING

Vehicle lifts with an insufficient lifting capacity can collapse under the weight of the vehicle and crush any persons standing underneath.

Compare the weight of the vehicle with the lifting capacity of your vehicle lift. The weight of the vehicle must not exceed the lifting capacity of your vehicle lift. The weight of the vehicle can be found in the vehicle operating manual.

WARNING

Risk of injury from electric current.

Switch off the ignition and disconnect the battery when working on the vehicle electrical/electronics systems.

WARNING

Hydraulic oil can lead to heavy injuries under pressure squirting out.

Poisoning danger by swallowing hydraulic oil.

Danger of injury by irritations at contact of hydraulic oil with eyes, mucous membrane and skin.

Protective clothing and safety goggles carry. Avoiding contact with eyes, mucous membrane and skin.

Not eating, drinking or smoking at dealing with hydraulic oil.


⚠ CAUTION

Risk of injury from hands and arms being crushed, cut or lacerated when working with sharp-edged and bulky objects.

Wear protective clothing and protective gloves. Keep limbs out of narrow and inaccessible areas of the vehicle and/or avoid dangerous situations by using special tools and suitable aids.


⚠ CAUTION

Risk of injury to back, muscles, joints, tendons and ligaments from lifting and carrying heavy and/or bulky objects.

Lift and transport heavy and/or bulky objects with the help of other people and/or with suitable aids.

NOTICE

Before starting the assembly procedure, carefully read the assembly instructions in full and pay attention to the safety information and sequence of the individual operation steps.

NOTICE

All body parts must be prepared and painted in accordance with the attached painting guide.

II Preparation

Number of people required

For the installation of this product at least two persons are needed.

Help and support

If you have any technical queries, please contact us immediately:
support@techart.de

Check TECHART Noselift System parts kit for completeness

Quantity	Part number	Part designation
1	**092.200.800.009**	**Noselift System for 992 left-hand-drive**
Consisting of:		
1	092.200.820.100	Hydraulic unit incl. large battery plate
2	092.200.840.100	Lift cylinder
1	091.200.800.300	Assembly kit wiring harness electrics
1	091.200.830.100	Wiring harness power supply
1	091.200.830.200	Wiring harness CAN connection and integration
1	091.200.800.200	Assembly kit hydraulic lines
2	091.200.810.100	Hydraulic line 1000 mm
1	092.200.831.100	Switch Noselift

Quantity	Part number	Part designation
1	**092.200.860.009**	**Noselift System for 992 right-hand-drive**
Consisting of:		
1	092.200.860.120	Hydraulic unit
2	092.200.840.100	Lift cylinder
1	092.200.860.200	Wiring harness CAN
1	092.200.860.210	Wiring harness power supply
1	097.200.830.220	Wiring harness CAN Y-connection
1	091.200.800.200	Assembly kit hydraulic lines
2	092.200.810.300	Hydraulic line
1	092.200.831.100	Switch Noselift
1	000.911.100.032	Hydraulic fluid

Please use the table to check whether all of the required parts are present.

Once parts have been removed from their original packaging, ensure that they are properly handled and stored.

III Installation

⚠ **The TECHART Noselift System may not be connected to the power supply before the hydraulic lines are connected.**

Work may only be carried out on the hydraulic unit and suspension struts when they are disconnected and depressurized and with the hydraulic unit switched off. The hydraulic unit must be secured to prevent it being switched on. Accordingly, the entire hydraulic unit including control system must be disconnected from the battery and the connection line must be insulated against contact with the battery.

All pressure lines and lift cylinders must be depressurized before work is carried out on the TECHART Noselift System.

The hydraulic unit and lift cylinders can become hot if repeatedly raised and lowered.

The relevant safety regulations must be complied with when handling hydraulic fluid.

If the power supply fails, the vehicle drops to the normal level.

Warning! Before disconnecting the power supply (battery), observe the relevant information supplied by the vehicle manufacturer.

1 Location of components

992

Switch is located in the ashtray unit

1 TECHART lift cylinder right
2 TECHART lift cylinder left
3 TECHART hydraulic unit
4 Hydraulic line connection, lift cylinder
5 CAN-communication connection vehicle – hydraulic unit
6 TECHART Noselift switch

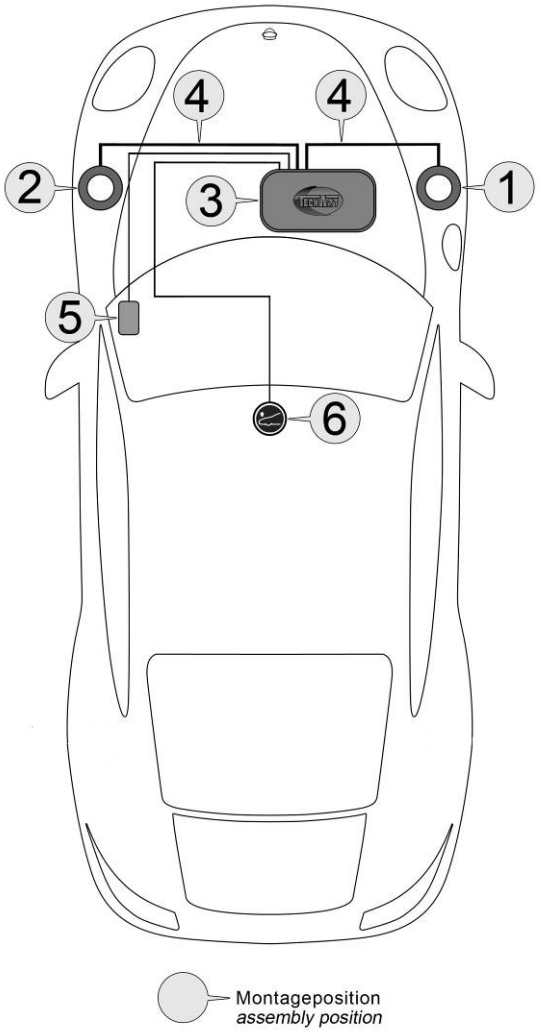

Fig. 01

Fig. 01 shows the left-hand-drive version. Right-hand-drive vehicles are mirror-inverted.

2 Preparing the vehicle

Before starting work, check that the vehicle is free from defects. Use the PIWIS system tester to read out all the fault memories of the individual vehicle components and first rectify any faults displayed.

1 Raise vehicle at the factory-fitted lift support points.

2 Detach the wheels.

3 Install hydraulic unit

The installation instructions show a left-hand drive vehicle; for right-hand drive vehicles, the procedure must be mirrored.

1 The TECHART hydraulic unit is installed in this area.

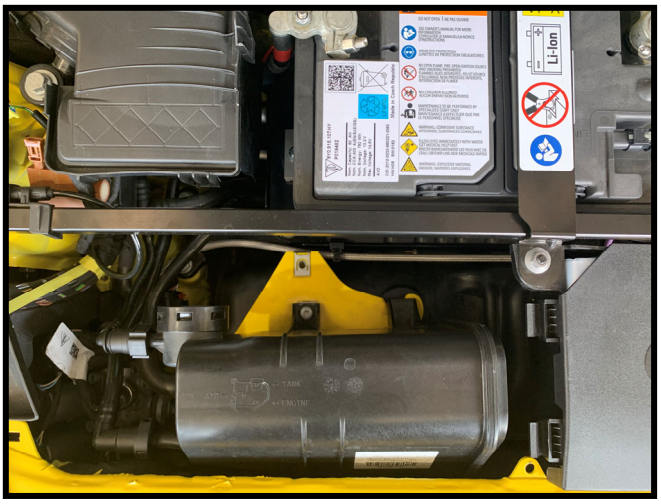

Fig. 02

2 Screw the TECHART hydraulic unit with the original screws here.

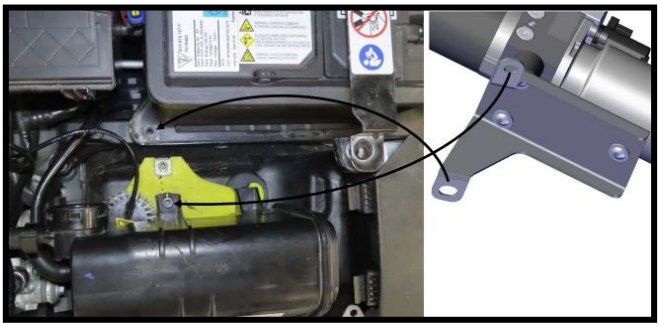

Fig. 03

3 Screw the TECHART control unit to the battery holder using the M8x25 screw.

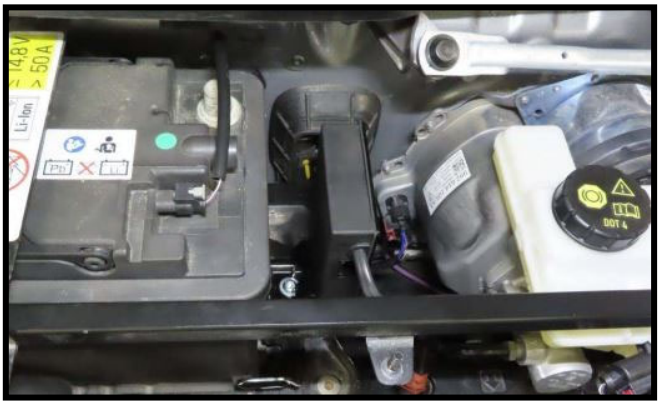

Fig. 04

4 Connect the line for the magnetic valve to the control unit.

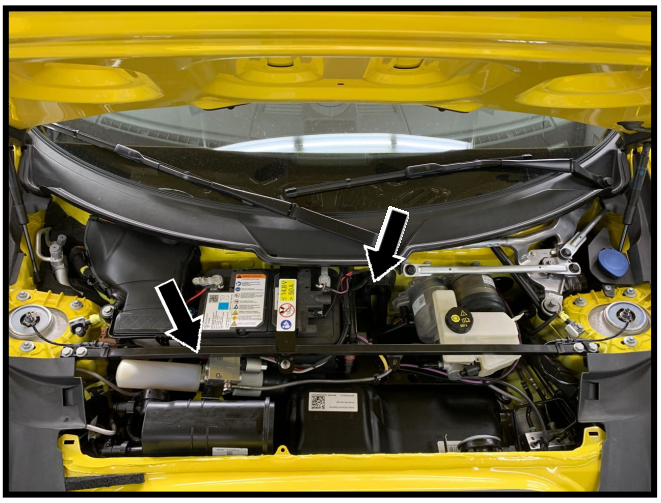

Fig. 05

4 Assembly of left and right lift cylinders

1 Detach the suspension struts of the front axle according to the manufacturer’s instructions.

2 Disassemble the suspension struts according to the manufacturer’s instructions.

Use the spring compressor. Risk of injury!

3 Remove spring seat, spring and dust cover.

4 Remove the spring plate carefully.

Fig. 06

5 Slide on the TECHART lift cylinder.

6 Slide on the spring pad.

7 Slide on the spring.

Fig. 07

8 Install the suspension strut according to the manufacturer's instructions.

9 Please make sure that the connections for the pressure line stays accessible.

Fig. 08

10 Route the hydraulic line in front of the battery to the spring mandril.

11 Lay the lines in front of the dome through the openings of the wheel houses.

Fig. 09

12 Route the line tension-free inside the wheel house.

13 The line has to be routed tension- and friction-free in every steering angle and in each suspension setting.

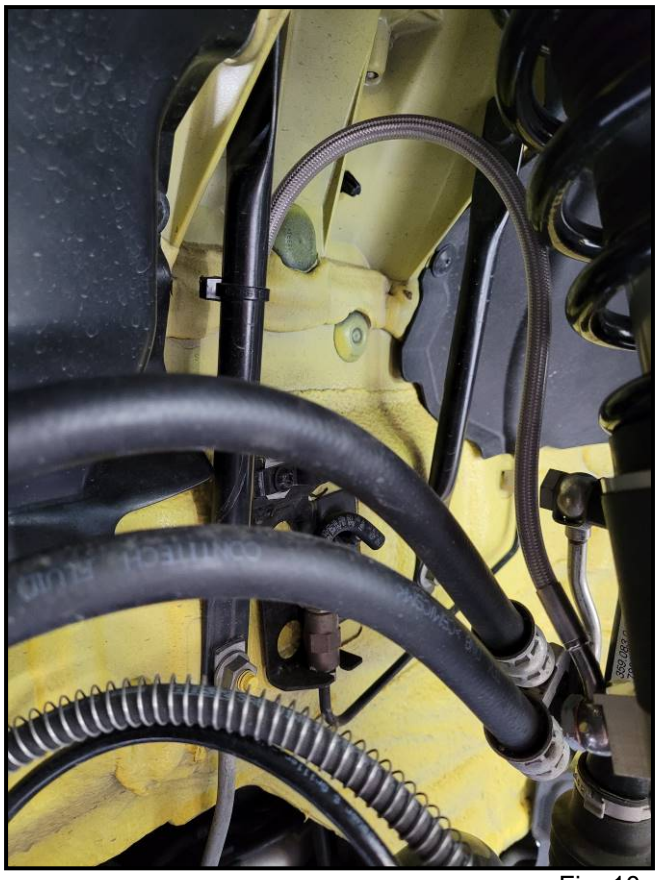

Fig. 10

14 Fix the line with edge-clips and cable ties.

Fig. 11

The hydraulic lines must not be kinked or pinched. They must be routed in such a way that they do not chafe against other parts, overextend or sag in any driving or steering situation.

Please care for a sufficient loop-size before the final tightening of the hydraulic line. By choosing the size of the loop you need to make sure that the complete work area of the strut won't be kinked or bent.

IMPORTANT: Move wheels to the straight-ahead position.

5 Install electronic-kit

Cables that are improperly routed or connected can cause malfunctions or damage to components. Correct cable routing and cable connection is the basic requirement for durable and fault-free operation.

1 Carefully, remove the cap to the passenger compartment in the front left below the wiper linkage.

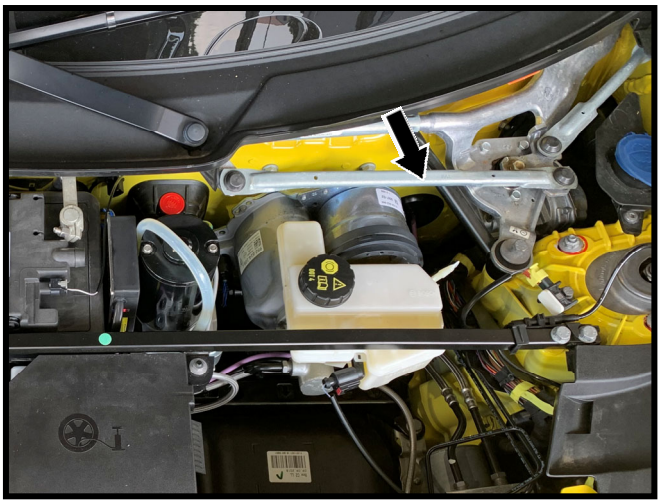

Fig. 12

The cap can be pressed from the passenger compartment to the outside.

2 Cut or drill a 30 mm hole in the center of the cap.

3 Plug the control cable into the TECHART control unit and lock the plug.

4 Route the cable through the rubber grommet into the Inside.

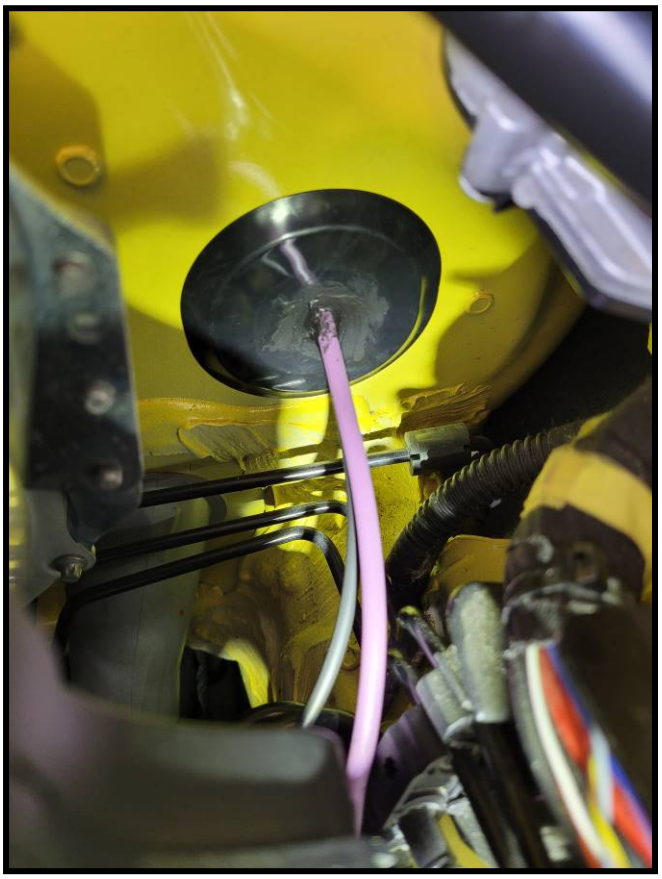

Fig. 13

Fix the connection line to the on-board wiring harness with cable ties

5 Route the control line in the interior to the CAN-Gateway (left footwell).

Fig. 14

6 Unplug the compact plug “B” (plug towards the splash guard) at the CAN-Gateway and dismount the connector housing.

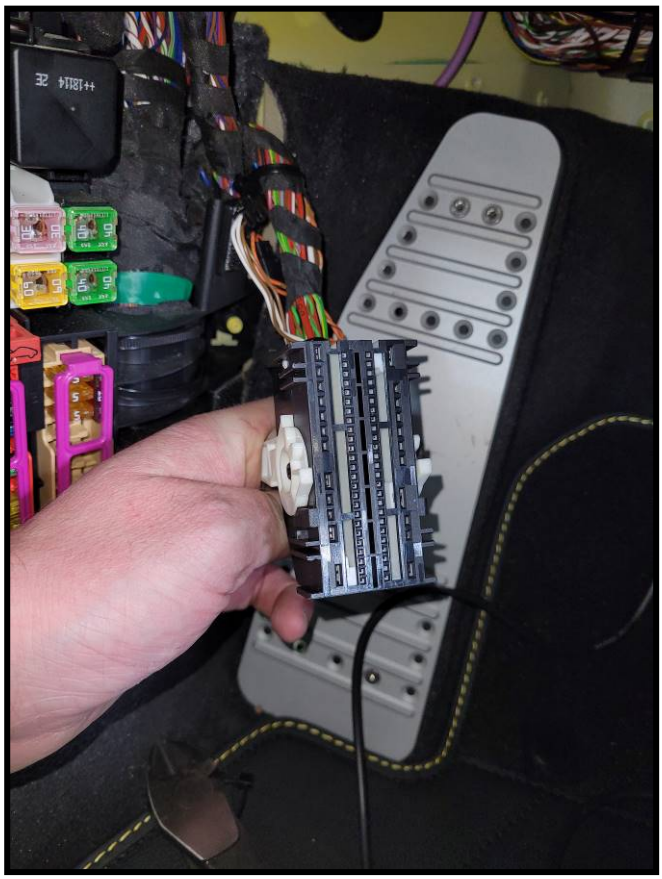

Fig.15

7 Remove Pin 40 and Pin 41 from the pin carrier with a suitable tool.

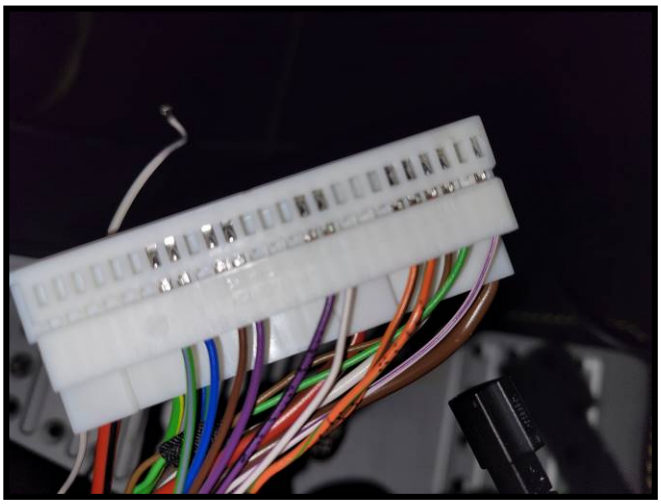

Fig. 16

8 Insert the unpinned cables to the supplied compact plug as follows. Connect Pin 40 into the Pin place 1. Connect Pin 41into Pin place 2. Interlock the compact plug.

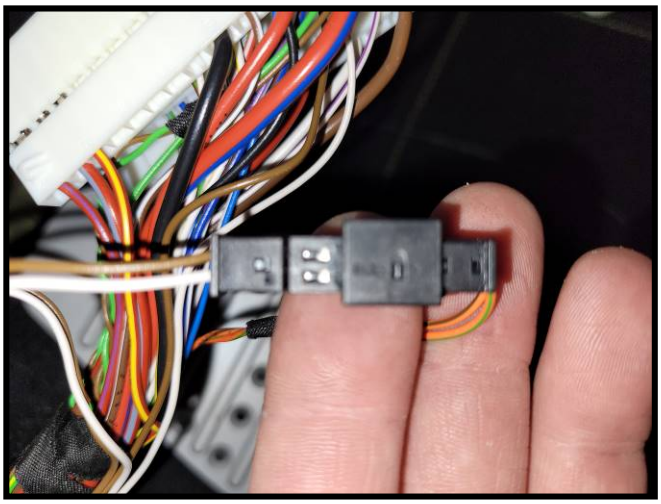

Fig. 17

9 Then connect the Pin 1 cable from the Y-adapter to the available pin shaft 40 of the pin carrier CAN-Gateway, also connect the Pin 2 cable from the Y-adapter to the available pin shaft 41 of the pin carrier CAN-Gateway.

10 Connect the Y-adapter with the control line and the original wiring harness.

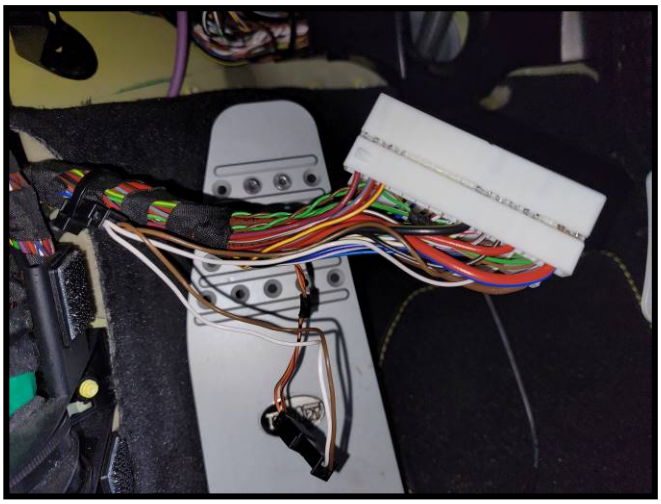

Fig. 18

Fix the connection line with cable ties to the car wiring harness.

11 Mount the CAN-Gateway compact plug housing to the pin carrier and insert the compact plug into the CAN-Gateway, then interlock.

Fig. 19

12 Route the 4-pole switch line along the steering column to the center console.

Fig. 20

13 To install the switch, the trim of the dashboard needs to be dismounted.

14 For that carefully loosen the cap at the passenger's side of the dashboard.

15 Loosen the side screw.

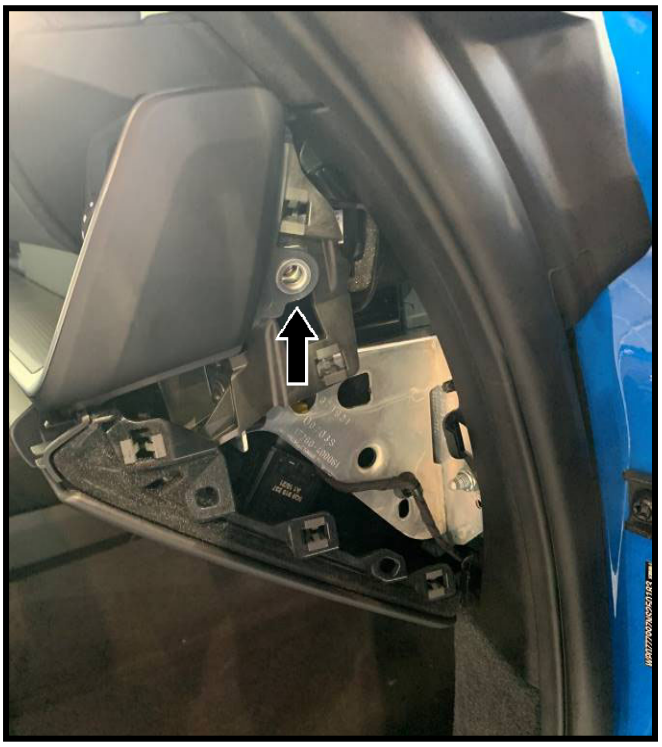

Fig. 21

16 Loosen the screws below the dashboard.

17 Remove the trim towards the seat.

Fig. 22

18 Feed the cable to the top.

19 Insert flat cable.

20 Slide the plug and the cable into the dashboard.

21 Make sure that the flat cable does not bend.

Fig. 23

22 Reinstall the trim.

23 Remove the film from the back of the button and stick the switch on the surface to the left of the display.

Fix the connection line with cable ties to the car wiring harness.

6 Installation and connection of the power supply lines

Cables that are improperly routed or connected can cause malfunctions or damage to components. Correct cable routing and cable connection is the basic requirement for durable and fault-free operation.

1 Screw the power supply line to both battery poles.

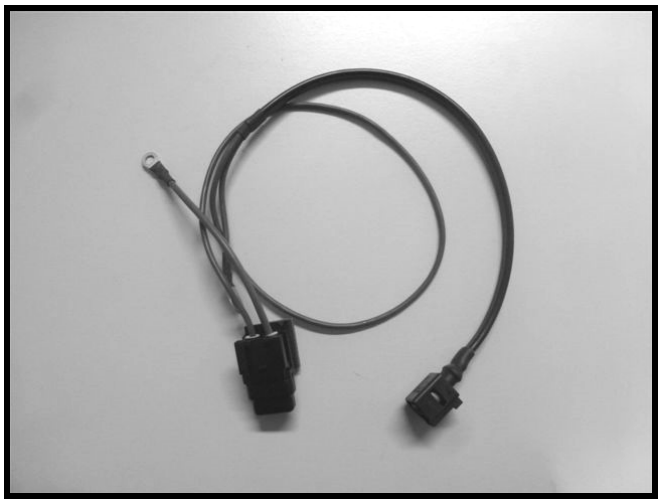

Fig. 24

2 For that use the existing stud bold at the pole terminal.

RD/RD = +

BU/BU = -

3 Fix the fuse holder at a suitable place for that remove the protection foil from the adhesive base.

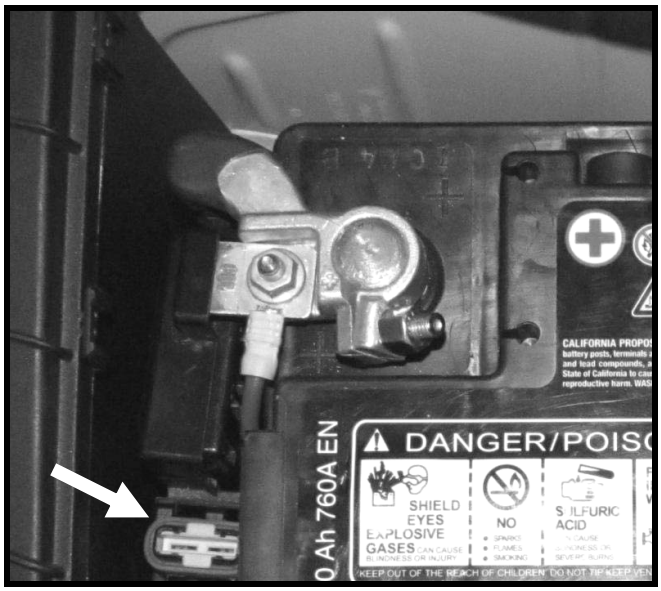

Fig.25

The bonding surfaces must be free from dust and grease!

4 Insert the compact plug power supply to the TECHART Noselift control unit.

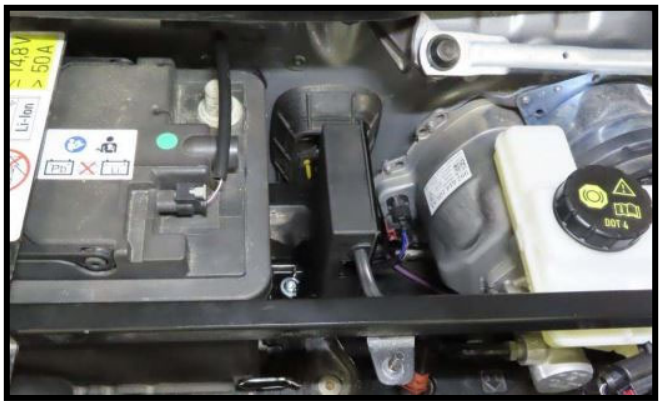

Fig. 26

Fix the connection line with cable ties to the car's wiring harness.

7 Initial start-up and operation of TECHART Noselift System

Before initial start-up, a visual inspection of all hydraulic lines and power supply lines is recommended.

1 Place the vehicle on its wheels.

2 Check wheel clearance. Minimum distance to the tires 5mm.

3 Remove the oil filler plug / pressure equalization screw from the pump.

4 Replace the sealing plug from the hydraulic oil reservoir with the dipstick supplied.

5 Insert the 30A fuse supplied.

6 Switch on the ignition, do not start the engine.

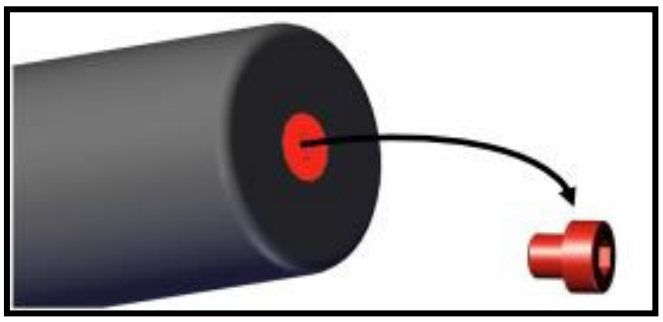

Fig. 27

7 Check the LED status on the control unit. The red and blue LEDs must light up.

8 Start engine in neutral gear.

9 Actuate TECHART Noselift switch (audible sound of hydraulic pump) => vehicle rises.

10 Lower the vehicle by actuating the TECHART Noselift switch again.

11 Raise and lower the vehicle at least 10 times. This process automatically bleeds the hydraulic system.

12 Actuate the TECHART Noselift switch => vehicle rises.

13 Check the oil level in the tank and top up if necessary. The vehicle must always be raised with the lift.

14 If the oil level is too low, only the HLS AeroShell Fluid 41 oil supplied may be used.

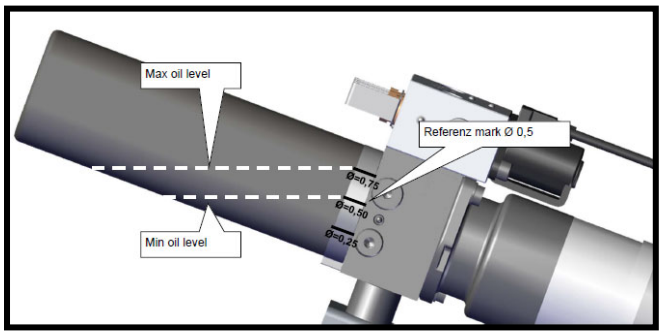

Abb. 28

15 If the oil level is too high, 10 mm above the minimum reference point, the excess oil must be removed by suction. If the oil level is too high, the pump may be defective.

16 Refit the screw plug in the raised vehicle position. 1Nm tightening torque.

IMPORTANT:

The TECHART Noselift system may only be operated when the vehicle is on its wheels. Actuating the system, e.g. on a lifting platform (when the suspension is fully extended), can lead to a defect in the lift cylinders.

17 Visually check all screw connections again for leaks. The TECHART Noselift system must not be operated under any circumstances.

8 Final inspection

1 Perform a general function test of the vehicle.

2 Read out and erase all fault memories with the PORSCHE system tester and/or rectify any faults.

3 Align and adjust vehicle geometry in line with the manufacturer’s instructions.

4 Adjust headlamps.

5 Next, carry out a test drive, then check the fault memory again.

9 Tightening torques

Location	Description	Basic value
Piston rod to front axle supporting mount FA	M 14 x 1.5	70 Nm
Suspension strut supporting mount to body, front axle	M 8	30 Nm
Suspension strut to wheel carrier, front axle	M 12 x 1.5	40 Nm +180°
Coupling bar at wheel carrier FA conventional	M 12 x 1,5	40 Nm +180°
Coupling bar at wheel carrier FA PDDC	M 12 x 1.5	50 Nm + 50°
Wheel at wheel hub	M 14 x 1.5	160 Nm
Wheel at center-lock		600 Nm
Hollow screw at lift cylinder	M 10 x 1	20 Nm

IV Further Information

1 Adjustment values for vehicle height

Permissible lateral deviation of vehicle: Max. height difference between left and right = 5 mm per axle.

Measurement of the vehicle's height:

The measurement S_{rm} is between wheel center and fender fold. TECHART recommends to measure as follows.

TECHART

Height measurement report chassis

Vehicle		License plate		Inspector	
Date		Kilometer reading		VIN:	
Tank level		Order no.			

FL

Air-pressure		bar
Tire		
S_1		mm
S_2		mm
S_{rm}		**mm**
S_{asp}		mm

FR

Air-pressure		bar
Tire		
S_1		mm
S_2		mm
S_{rm}		**mm**
S_{asp}		mm

HL

Air-pressure		bar
Tire		
S_1		mm
S_2		mm
S_{rm}		**mm**
S_{asp}		mm

HR

Air-pressure		bar
Tire		
S_1		mm
S_2		mm
S_{rm}		**mm**
S_{asp}		mm

Measure S_1 and S_2. In this case S_{rm} will be calculated with the following formula. S_{asp} is for the sake of completeness.

$$S_{rm} = (S_1 - S_2) / 2 + S_2$$

S_1 = Distance fender fold to rim flange bottom
S_2 = Distance fender fold to rim flange top
S_{rm} = Distance fender fold to rim center
S_{asp} = Distance fender fold to asphalt

2 Technical Data

Operating voltage 11.5 - 15 Volt DC
Power consumption max. 30 A (activated), < 20 mA (not activated)
Operating temperature -20°C to +75°C
Operating pressure 90 - 120 bar (vehicle dependent)
Weight 5.4 kg empty
Dimensions (L/W/H) 430 mm / 185 mm / 230 mm

3 Maintenance

The TECHART Noselift System is largely maintenance free. However, the following operations have to be performed regularly:

- Check level of hydraulic oil twice a year. The oil level should be between the upper and lower marking.
- Check hydraulic lines and connections for damages and leaks once a year.
- An oil change is not necessary.

4 Notes on hydraulic oil

The TECHART Noselift System is supplied with hydraulic fluid (separate). After installing the lift cylinders and hydraulic lines, the TECHART Noselift System must raise and lower the vehicle at least 10 times. The air is forced out of the hydraulic circuit during this procedure. Then check the oil level and, if necessary, fill up to the upper marking of the oil dipstick. Ensure that no foreign objects such as metal shavings or other contaminants enter the oil reservoir.

If the system is ever removed, the hydraulic line must be disconnected at the lift cylinder. Only a small quantity of hydraulic oil then escapes from the line. Collect the oil in a suitable clean container. Make sure that the reservoir is oil resistant. If the hydraulic oil is reused, it must be filtered using a filter suitable for hydraulic oil when it is added to the oil reservoir. If new oil is used, the old oil fluid must be disposed professionally.

5 Operating framework and self-help

1. Diagnosis via LED status

LEDs at the control unit

- **LED red: Power.** Is lit as soon as the control unit is turned on. Turns off as soon as the control unit shuts off. If no CAN Bus is recognized the control unit turns off after 2 minutes.

  The LED does not light up at all -> check the power supply.
  The LED lights up for about 2 minutes -> check CAN Bus wiring.

- **LED blue: CAN communication.** Is lit as soon as about 2.5V is attached to the CAN input.

  It does not check the correct polarity. If the CAN voltage is missing the control unit turns off after 2 minutes.

  The LED does not light up -> check the CAN Bus wiring.

- **LED green: Status push-button**. Is lit as soon as the push-button sends an impulse.

  The LED does not light up when using the push-button -> check the wiring and function of the push-button.

LED push-button, passenger compartment

- **LED red, push-button:**

  - Is flickering after pressing the Noselift until the final position is reached.

  - Lights up permanently as long as Noselift remains in final position.

  - Flashes during the release until zero position is reached and then goes out.

  - Is flickering after pressing (without the pump running) in case of a failure which leads to the fail-safe-mode, but only when fail-safe-mode is activated immediately. If the push-button is pressed at a later time during the fail-safe-mode the push-button will not flicker anymore since the control unit will be deactivated during the fail-safe-mode.

  - LED is flickering / no Noselift function -> reset the control unit. For that remove the fuse for one minute to interrupt the power supply of the system.

2. Operating framework fail-safe mode

This system has a set of safety functions which prevent damages to the vehicle and the environment.

Undervoltage

To grand a safe engine start the Noselift system turns off, as soon as the on-board voltage declines below 9V. For example, if the Noselift is used with a discharged or weak battery without engine running (without generator load), the Noselift control unit will turn off.
The LED push-button flickers. To restart the system a reset has to be performed, for that the system has to be disconnected from the power supply for one minute (pull fuse). If this occurs again check the on-board power supply and repair, if necessary.

Please note: On modern vehicles the generator charging might start after a few minutes of driving to fulfill the strict exhaust-regulations.

Overload protection

To prevent too high currents and therefore cause the increase of temperature the system turns off when reached a current flow of over 40A. This can happen when the lift cylinder or the pump is mechanically rough-running, the viscosity of the hydraulic oil is extremely thick (extreme low outdoor temperature) or the pump has an electronic damage. On extreme high outdoor temperatures (e.g. on race track operations) the inner friction of the lift cylinders increases.
The LED push-button flickers. To restart the system a reset has to be performed, for that the system has to be disconnected from the power supply for one minute (pull fuse). If this occurs again check the current flow to the hydraulic pump and repair the defective component, if necessary.

Underload protection

If the pump turns to easily the system will assume a leakage of the hydraulic system and the system switches to fail-safe-mode to prevent that the hydraulic oil will be hoisted from the system to the environment. Also, a not sufficiently aerated system can cause a fail-safe mode.
The LED push-button flickers. To restart the system a reset has to be performed, for the system has to be disconnected from the power supply for one minute (pull fuse). Check the system for leak-tightness and seal or aerate the system, if necessary.

6 Disposal information

- Electronic components and hydraulic components contain both environmentally harmful and recyclable components.
- Dispose of the components in an environmentally friendly and proper manner in accordance with legal requirements.

TECHART

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